researchers and resulted in negative conclusions about Federal assistance programs, in general, and the minority economy, in particular. With its recent updates and refinements, the MBDA Financial Research Data Base is a rich new data source containing information on the more viable minority businesses. Analyses of the data reveal important characteristics of emerging minority-owned enteprises.

Experience acquired through the project suggests specific actions needed for promoting minority business development. Continuing development of adequate information for analysis and attention to the maintenance and verification of the data is recommended. Separating aids to marginal businesses--resulting mostly in income maintenance programs--from aids to potentially successful businesses--correctly identifiable as business development programs is recommended. The policy implications of the research are discussed in greater details at the end of the report.

The Updated MBDA Financial Research Data Base (pp. 10-44)

Exploratory work toward creating a minority business data base began in 1978. After recent updates, the MBDA data base contains financial records, for one or more years during the 1975-1982 period, of 3,819 minority businesses.

The source of the data is a specialized Dun & Bradstreet (D&B) file, containing approximately 800,000 detailed financial records selected from the over five million records maintained by D&B for credit report services. Minority firms are identified by matching the names in the D&B file with those listed in several minority directories.

Limitations of the data are mostly related to the timing, scope, and consistency of data collection procedures--adequate for the uses intended for by Dun & Bradstreet, but needing careful monitoring and some improvement to support econometric analyses. One apparent limitation, the lack of randomness of the data and the over-representation of larger and more viable minority firms, becomes an attractive feature because it is this very group that researchers interested in minority business development have not been able to observe in previously available data sources.

The MBDA Financial Research Data Base contains 3,819 business names of minority firms and 2,119 names of non-minority enterprises. Approximately 2.3 years of financial records for the minority firms and 3.1 years of records for

The MBDA Financial Research Data Base consists of related files designed to accommodate all available and forthcoming data and to provide flexibility in composing special purpose files for users. There are six files in the system. Each file contains records uniquely identified by firms' code numbers, and each record is made up of variables or descriptors relating to that one firm.

Two files represent the core of the information system. One, referred to as the "descriptive file, contains firms identifiers, such as D&B code numbers, business names, locations, and other descriptive information. The other file, called the "performance" file, contains yearly financial data arranged by statement date from 1974, the earliest year available, to 1982, the latest year. The remaining files contain tax and depreciation data, ethnic characteristics, information on discontinuances, and income and unemployment indicators.

Special purpose files, adequate to conduct econometric analyses, were created from the MBDA data base and were used to determine the viability of minority entrepreneurship in non-traditional lines of business, to compare the profitability of minority firms with that of their non-minority counterparts, and to observe life cycle behavior of minority business enterprises. In the present form, the data files are easily called in and used with standard statistical packages, such as SAS and SPSS. Also, in the present format, with records' size reduced to approximately 700 bytes, the data base can be manipulated using by micro-computer systems.

Minority Business Operation And Potential (pp. 45-109)

Historically, minority-owned businesses concentrated in lines of small-scale retail and service activity, such as grocers, barber shops, and restaurant operations, with minimal potential for growth. Until recently, minority entrepreneurship faced limited access to credit and capital, limited educational and training opportunities, and restrictive societal attitudes about the roles that minorities should assume. Since the 1960's, availability of government guarantees against default risks induced banks to extend loans to minority businesses. In the 1970's, these business stimulants were reinforced by applying identical econometric models to the two groups.

The findings are summarized below:

- The more viable minority firms are concentrated in the emerging lines of minority business, such as manufacturing, wholesale, and construction;

- Minority firms in fields other than retail earned higher returns on business net worth than their non-minority counterparts. This indicates viability for the minority businesses and suggests that access to credit markets has been beneficial to firm profitability;

- Minority firms usually maintain a highly leveraged position reflected in lower net worth to total asset ratios. Further balance sheet investigation reveals that the greater minority firm leverage is caused by heavy reliance upon long-term debt relative to the non-minority sample. But, borrowing long-term, while profitable for many minority businesses, is not without its risks: highly leveraged businesses are more vulnerable to sustained periods of less profitable operations, such as those occurring during recessions. The heavier reliance upon debt rather than net worth is likely to generate more failures among minority firms during recessions relative to their less-leveraged non-minority counterparts. This conclusion is reinforced by the results of the discriminant analyses which indicate that the incidence of zero or negative profits for minority firms is four times that of their non-minority counterparts.

- While the results of the ethnic analyses were limited by the small number of applicable ethnic identifiers, they suggest that profits might be more accurately predicted for the entire sample of minority firms if ethnic/racial identifiers were available for all firms and these were accordingly grouped before being used in the econometric analyses.

- The analysis of discontinuances suggests that the firms which discontinued operations were relatively illiquid, had low net worths, were disproportionately concentrated in the retail trade sector and were under-represented in the service sector of the minority economy.

[redacted]

of demographic, social, and economic forces--had remained mostly unobserved because biased and incomplete data sources had reinforced preconceived notions about minority businesses. Also, the more visible plights of failing minority enterprises have over-shadowed the achievements of successful entrepreneurs, typically busy, better integrated into mainstream economic life, and, therefore, less noticeable. Minority-owned enterprises are not homogeneous, but clearly divided into two groups with distinct and identifiable needs. The two groups are the small, largely unprofitable, firms operating in traditional lines of business and the larger, more aggressive and profitable enterprises mostly operating in industries historically not entered by minority business firms.

The viable minority enterprises in growing industrial sectors are noticeably different from their non-minority counterparts. The differences are mostly in long-term indebtedness (much higher for the minority-owned enterprises) and in labor-intensive methods of production (also higher among the minority businesses) but not in profitability. Yet, the incidence of zero or negative profits is found to be four times higher among the minority than the non-minority firms. The apparent contradiction is resolved when one observes that long-term indebtedness is predominantly associated with the declining "traditional" business sectors. Also, when long-term indebtedness cannot be avoided by young minority entrepreneurs in their quest for better economic opportunities, it increases their risk for failure as they face "pulsating" phases of business development and the inevitable swings of the business cycle.

There are two major thresholds of the minority business development process: one is the creation of new businesses in non-traditional industries and the other is the survival of young viable enterprises during their early years of operation. This finding suggests that effective business development strategies can and should be narrowly focused on well-defined groups of promising minority entrepreneurs.

Two more points are worth mentioning: the labor-intensive quality of minority business operation increases the economic and social benefits to be derived from expanding the minority business sector, and, the differences between minority and non-minority businesses are likely to decrease as firms become older and more established. Therefore, the need for government assistance can be narrowed to and made more effective for well-defined groups of firms.

viable minority firms during the early years of their development.

The entrance into non-traditional lines of business by an increasing number of minority entrepreneurs depends upon appropriate incentives for attracting private venture capital toward promising new firms in high-growth industries. Important to support this policy objective is the activation of complementary programs in human resource development that, through effective out-reach training and re-training capabilities, would continually increase the enrollment of minority students in the administrative sciences and in quantitative and engineering curricula.

The maintenance of liquidity by viable young minority businesses requires a redirection of present financial assistance efforts with emphasis on investment in the equity of the minority enterprise. Equity investment in promising minority enterprises is an essential component of minority business development policy (and is not effectively carried out by present programs, such as the MESBIC). This type of government assistance, both directly and through appropriate linkages with the private sector, is justified by the new evidence that minority firms are under-capitalized and carry a heavier debt structure than non-minority firms while comparing favorably with their non-minority counterparts in profitability.

An interesting speculation needing further research is that historical obstacles to minority business development may have contributed to create, in minority entrepreneurs, qualities of risk-taking and business aggressiveness not found in business persons who emerged from more secure and predictable business environments. Hence, policies directed to foster minority business development may be justified also as effective ways of supporting values and attitudes essential to the maintenance and prosperity of a free-market economy while investing in high-return business ventures.

To support the programs just described, adequate information must be rigorously collected and scrupulously maintained over time. This is indispensable not only to the fine-tuning and coordination of assistance programs, but also to the establishment of appropriate criteria for investors and financial intermediaries serving the minority business sector.

Harriette W. Furno.

Mr. Herbert Becker, Assistant Director, Advocacy, Research & Information Division of the Minority Business Development Agency (MBDA), has been supportive throughout the entire project. Mr. Richard L. Stevens, Chief of the Research Divison of MBDA, was not only a most efficient project administrator, but also a valuable colleague, offering substantive assistance and useful suggestions.

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Background 1

Accomplishments And Limitations 2

Need Assessment And Recommendations 5

Research And Data Base Development 5

Maintenance 7

Programs For Minority Business Assistance and Development . . . 8

II. THE UPDATED MBDA FINANCIAL RESEARCH DATA BASE . . . 10

Data Base Development 10

Data Collection Procedures 11

Data Base Limitations 13

Data Base Characteristics 16

Descriptive, Financial, and Miscellaneous Data Files 19

Special Purpose Files 27

Using The Data Base 39

Shortcomings of Available Literature 51

Business Viability 54

The Variables 54

Findings 55

The Problem With Outlyers 61

Comparisons With Similar Non-Minority Firms 62

Explaining Profitability For Ethnic/Racial Sub-Groups 76

Failure In Minority Business Operation 81

Business Life Cycle Of Minority-Owned Firms 85

Policy Implications: Promoting Minority Business Development 109

APPENDICES

APPENDIX I: NUMBER OF FINANCIAL RECORDS IN THE MBDA DATA BASE

APPENDIX II: FREQUENCY OF SELECTED FINANCIAL DATA WITH COMPARABLE OBSERVATIONS IN 1980 BY MINORITY AND LEGAL STATUS

APPENDIX III: ESTIMATING SALES AND PROFITS

APPENDIX IV: REGRESSION AND DISCRIMINANT ANALYSIS MODELS

(FINANCIAL) FILE RECORD 21

TABLE 5: CONTENT OF COMPLEMENTARY FILES RECORDS 23

TABLE 6: MBDA FINANCIAL RESEARCH DATA BASE ANALYSIS FILE, Minority Firms By Sales Categories, Legal Status, And Major Industry Groups 33

TABLE 7: MBDA FINANCIAL RESEARCH DATA BASE ANALYSIS FILE WITH ESTIMATED SALES DATA, Minority Firms By Sales Categories, Legal Status, And Major Industry Groups 34

TABLE 8: MBDA FINANCIAL RESEARCH DATA BASE, Summary Statistics Of Sales Data In The Minority Analysis File With Estimates 36

TABLE 9: MBDA FINANCIAL RESEARCH DATA BASE ANALYSIS FILE, Non-Minority Firms By Sales Categories, Legal Status, And Major Industry Groups 37

TABLE 10: MBDA FINANCIAL RESEARCH DATA BASE, Summary Statistics Of Sales Data In The Non-Minority Analysis File With Estimates 38

TABLE 11: MBDA FINANCIAL RESEARCH DATA BASE/ COMPARATIVE ANALYSIS FILE, Minority Firms By Sales Categories, Industry, And Legal Status 40

  - Hypothesized Relationships . . . .
  - Randomness Of Samples 50
- Shortcomings of Available Literature 51
- Business Viability 54
  - The Variables 54
  - Findings 55
  - The Problem With Outlyers 61
  - Comparisons With Similar Non-Minority Firms 62
- Explaining Profitability For Ethnic/Racial Sub-Groups 76
- Failure In Minority Business Operation 81
- Business Life Cycle Of Minority-Owned Firms 85
- Policy Implications: Promoting Minority Business Development 109

APPENDICES

APPENDIX I: NUMBER OF FINANCIAL RECORDS IN THE MBDA DATA BASE
APPENDIX II: FREQUENCY OF SELECTED FINANCIAL DATA WITH COMPARABLE OBSERVATIONS IN 1980 BY MINORITY AND LEGAL STATUS
APPENDIX III: ESTIMATING SALES AND PROFITS
APPENDIX IV: REGRESSION AND DISCRIMINANT ANALYSIS MODELS

TABLE 4: CONTENT OF PERFORMANCE (FINANCIAL) FILE RECORD 21

TABLE 5: CONTENT OF COMPLEMENTARY FILES RECORDS 23

TABLE 6: MBDA FINANCIAL RESEARCH DATA BASE ANALYSIS FILE, Minority Firms By Sales Categories, Legal Status, And Major Industry Groups 33

TABLE 7: MBDA FINANCIAL RESEARCH DATA BASE ANALYSIS FILE WITH ESTIMATED SALES DATA, Minority Firms By Sales Categories, Legal Status, And Major Industry Groups 34

TABLE 8: MBDA FINANCIAL RESEARCH DATA BASE, Summary Statistics Of Sales Data In The Minority Analysis File With Estimates 36

TABLE 9: MBDA FINANCIAL RESEARCH DATA BASE ANALYSIS FILE, Non-Minority Firms By Sales Categories, Legal Status, And Major Industry Groups 37

TABLE 10: MBDA FINANCIAL RESEARCH DATA BASE, Summary Statistics Of Sales Data In The Non-Minority Analysis File With Estimates 38

TABLE 11: MBDA FINANCIAL RESEARCH DATA BASE/ COMPARATIVE ANALYSIS FILE, Minority Firms By Sales Categories, Industry, And Legal Status 40

The Comparative Analysis File Of
Non-Minority Firms 43

TABLE 15A: MULTIPLE LINEAR REGRESSION MODELS EXPLAINING THE PROFITABILIY OF MINORITY-OWNED BUSINESSES: MAJOR INDUSTRY GROUPS 56

TABLE 15B: SUMMARY STATISTICS DESCRIBING TABLE 15A'S VARIABLES 58

TABLE 16: COMPARATIVE STATISTICS OF MINORITY AND NON-MINORITY GROUPS 64

TABLE 17A: MULTIPLE LINEAR REGRESSION MODELS EXPLAINING THE PROFITABILITY OF NON-MINORITY BUSINESSES: MAJOR INDUSTRY GROUPS 65

TABLE 17B: SUMMARY STATISTICS DESCRIBING TABLE 17A'S VARIABLES 67

TABLE 18: DISCRIMINANT ANALYSIS: MINORITY-OWNED BUSINESSES 71

TABLE 19: DISCRIMINANT ANALYSIS: NON-MINORITY-OWNED BUSINESSES 72

TABLE 20: NET NEW BUSINESS FORMATION AMONG BLACK AND HISPANIC FIRMS IN EMERGING FIELDS 75

[redacted]

TABLE 23: AGE DISTRIBUTION OF MINORITY AND NON-MINORITY FIRMS 86

TABLE 24: MEAN VALUES OF SELECTED FINANCIAL DATA AND STATISTICS OF MINORITY-OWNED BUSINESSES BY YEAR OF BUSINESS FORMATION 89

TABLE 25: DISCRIMINANT ANALYSIS: MINORITY BUSINESSES BY AGE GROUPS, Oldest Firms 92

TABLE 26: DISCRIMINANT ANALYSIS: MINORITY BUSINESSES BY AGE GROUPS, Firms Formed During The 1966-1972 Time Period 97

TABLE 27: DISCRIMINANT ANALYSIS: MINORITY BUSINESSES BY AGE GROUPS, Firms Formed During The 1973-1977 Time Period 101

TABLE 28: DISCRIMINANT ANALYSIS: MINORITY BUSINESSES BY AGE GROUPS, Youngest Firms Formed During The 1978-1979 Time Period 104

TABLE 29: COMPARISONS OF MINORITY BUSINESS SIZE: SBA LOAN DATA VERSUS D&B SAMPLE OF FIRMS 111

must confront untested hypotheses as well as weak and elusive data bases. The result is limited or, even worse, misleading information.

When researchers, in the early 1970's, began the systematic investigation of minority firm behavior, their findings were biased by limiting sampling techniques. Data on minority business activity at the "micro" level was, then, the by-product of loan programs[1] targeted to socially or economic disadvantaged business groups. Inevitably, investigations based on that data uncovered high incidence of loan defaults[2] and marginally viable business enterprises.

In 1979, a research project, funded by the, then, Office of Minority Business Enterprise in the Department of Commerce, created a new data base. It included, for the first time, sufficient information on larger and viable minority the MBDA data base to investigate minority firm viability and potential, and, finally, discusses the policy implications of the data base and the research findings.

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[1] Mostly, the Economic Opportunity Loan (EOL) Program, begun, by the Small Business Administration, in the middle-1960's.

[2] Timothy Bates and William Bradford, Financing Black Economic Development, (New York: Academic Press, 1979), Chapters 9 and 10.

Accomplishments And Limitations

In the past, quantitative studies of minority business enterprises have focused on government efforts to promote minority entrepreneurship. Reasons for the research focus are the economically, socially, and politically relevant questions being raised by government intervention in that sector of business activity and the fact that financial data on minority business have been available

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[3] Antonio Furino (Principal Investigator), "The Development Of Key Business Ratios Of Minority-Owned Business Enterprises," unpublished report (Washington, D.C.: Office of Minority Business Enterprise, 1979).

[4] Work leading to the present MBDA information system was the result of a project funded by that Agency and completed, in 1982, under the direction of Antonio Furino with the contribution of several co-investigators.

[5] Timothy Bates had major responsibilities in data analysis and Richard Wadsworth led the design and implementation of the computerized information system.

program began in 1965, and it initially sought to assist solely those entrepreneurs who were living in proverty. Program eligibility more recently required that loan applicants be economically and socially disadvantaged. In practice, the EOL program has produced a very high incidence of loan default, but--as Bates and Bradford have argued (see Footnote 2)--frequent default is perfectly consistent with the program's underlying philosophy of targeting assistance to the disadvantaged. Sampling partially on the basis of business weakness necessarily biased the findings of the minority business community researchers. Particularly when the research objective involves judging the viability of minority enterprises which are not economically and/or socially disadvantaged, traditional data sources are inadequate.

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[6] See Alfred Osborne's criticism of SBA's Operation Mainstream in Alfred Osborne, "The Welfare Effect Of Black Capitalism On The Black Community," The Review Of Black Political Economy (Summer, 1976), pp. 477-483.

[7] See K. Knight and T. Dorsey, "Capital Problems Of Minority Business Development," American Economic Review (May, 1976), pp. 328-331; A. Osborne and M. Gronfield, "The Potential Of Black Capitalism In Perspective," Public Policy (Fall, 1976), pp. 532-537; T. Bates and W. Bradford, op.cit. Chapter 9.

minority enterprises that are, on the average, larger and more profitable than the minority firms examined in other published studies.

The development of a rich new data source that typifies a large part of the emerging minority business community in non-traditional lines of business[8] is a major accomplishment of the project described in these pages.

Other accomplishments reported here are the results of econometric techniques applied to the data. They indicate that the minority firms studied are viable, but clearly different from a similar group of non-minority businesses. The significance of the findings for small business research and their policy implications are sufficiently important to justify further research on the subject.

The limitations of the project have mostly to do with the time and funds constraints that characterize the development of new data bases. Specific explanatory power overall and that the data base represents a milestone in the general area of minority business research.

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[8] Most of the minority firms in the MBDA data base fall into such non-traditional lines of business activity as construction, manufacturing, and wholesale.

Need Assessment And Recommendations

The experience acquired through the project suggests that government action and change is needed in both the research and the program areas of minority business assistance and development.

o Research And Data Base Development

It is clear that the cause of minority business development is poorly served by the existing knowledge of minority business operation and potential. The major problem with most of the available information on small business, in general, and minority business, in particular, is its lack of micro-economic and of longitudinal data. Also, in the case of minority enterprises, better information is needed on the type and scope of government assistance and on the

the minority sector of the economy require information on industrial structure, financial trends, and comparison of minority versus non-minority firm performance. To evaluate the impact of government regulations on particular industries and regions, a certain minimum number of firms in each industry is required. Monitoring and explaining births and deaths of enterprises and observing shifts in growth patterns among industrial sectors implies continuous updates and careful maintenance of the information already in the data base, including follow-up information on business discontinuance and bankruptcy. Impact studies, particularly the determination of the effects of regulations and investment incentives, demand certain detailed balance sheet and income statement information over time and, perhaps, less industrial and regional details. Models explaining and predicting profitability or failure require consistence in data coverage and reporting procedures.

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[9] Large differences in firm operation and financial environment are sometimes associated with regional and ethnic characteristics. In this project, for example, the Cuban-owned firms of Florida, due to their atypical characteristics, were reducing the explanatory power of the econometric models to such an extent that they had to be left out of the analyses.

to insure updates of balance sheet and income statement items (possibly at unchanged reporting periods) as well as of complementing data on tax payments, depreciation, and employment. Particularly important is a clear identification of the causes of business discontinuances (bankruptcy, change of name or legal status, mergers, relocations, reporting problems, etc.).

Verification - The internal consistency of the data such as its adherence to basic accounting identities and to reasonable changes over time needs to be verified and correction performed as appropriate. Shifts in reporting time must be monitored and extreme changes flagged. Fiscal year rather than interim financial reports should be sought for all firms. Minority status and, possibly, ethnic sub-group affiliation should be verified.

Development - Since the present source of financial data does not have minority identifiers, a comprehensive and continously updated listing of minority entrepreneurs must be maintained to generate periodically additional matches between the list of names of minority enterprises and those appearing in the financial data source files.

o Programs For Minority Business Assistance And Development

The notion that government should assist minority-owned businesses, while politically popular, has been viewed critically by social scientists and political observers alike. The available evidence does suggest that minority development efforts have been less than successful, but, on the strength of findings from analyzing the data base just described, one could argue that program failure may have been a policy choice rather than an outcome inherent to the minority sector. Policy directed to promote minority business may not ignore the unemployment and poverty pockets of the ghettos and barrios of our nation, but a sharper distinction between income maintenance (aids to marginal businesses) and business development programs (aids to potentially successful businesses) would permit a more effective pursuit of both objectives with tools specifically designed and more precisely targeted to reach them.

When the profitability of minority and non-minority firms is compared, the research conducted for this project found that improved access to credit markets

Finally, it was found that the majority of viable firms are in non-traditional industrial sectors such as wholesale, construction, and manufacturing. Encouraging and speeding up the transition of the minority economy from businesses based on traditions and neighborhood markets to the more mobile and diversified minority enterprises should be a priority item of minority development efforts. In this context, special attention should be given to the data need in monitoring emerging industries whose changes, large in relative terms, but small compared to the size of traditional sectors, may be easily lost in aggregate data. More detailed recommendations are presented in the conclusive section of the report, "Promoting Minority Business Development."

too costly. The surveys, as originally conceived, were to utilize two major associations of minority CPA's as vehicles for data collection. While the associations were supportive, the legalities of disclosure discouraged that data collection approach[10]. Also, the utilization of data already being collected by some governmental agencies is either legally impossible or is impractical. The logical source of financial data for individual businesses is the Internal Revenue Service. But, besides the limitations of complying with the confidentiality requirements, retrieving data from IRS records was found prohibitively time-consuming and expensive[11].

After evaluating the available alternatives against MBDA budget constraints, the financial records maintained by Dun & Bradstreet (D&B) to create credit reports were chosen as preferable data sources. But, several problems remained. A major one, the absence of ethnic identifiers in the D&B records, was solved by commissioning researchers in several universities to

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[10] Other approaches would have required very expensive and uncertain (as to reliability) data collection efforts.

[11] See Footnote 13.

[redacted]

Shortly thereafter, 3,001 additional firms were added using matches between D&B files and several local, state, and national directories (see Table 1). Recent updates have extended the coverage, for some firms, to the 1982 fiscal year. In conclusion, the MBDA data base contains financial records, for one or more years during the 1975-1982 period, of 3,819 minority businesses.

Data Collection Procedures

Collecting the data to be stored in the D&B files is the responsibility of credit reporters--mostly college graduates entering professional careers with

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[12] In 1972, the eight states hosted, according to the Census, 52 percent of all minority-owned businesses.

[13] These early studies are summarized in "Key Business Ratios Of Minority Business," published in January, 1981, by the Center for Studies in Business, Economics, and Human Resources of The University of Texas at San Antonio.

[14] The Minority Business Development Agency (MBDA) has now a contractual agreement with Dun & Bradstreet (D&B) to insure continuity of reporting and documentation of discontinuances.

Dallas/Ft. Worth Buyers Guide	Dallas Regional Minority Purchasing Council, Dallas, Texas (1980)
Directory of Small Disadvantaged Businesses Located In The Great Southwest	Defense Logistics Agency, Defense Contract/Administration Service Region, Dallas, Texas (1981)
Minority Vendors Directory	Gulf Oil Corporation, Pittsburgh, Pa. (1979)
Minority Firms In MA, NY, CT, RI, ME, NH, VT	Defense Supply Agency, Boston, Mass. (1980)
Minority-Owned Businesses In New York	Office of Minority Business Enterprise, New York, NY (1980)
Minority Vendors Directory	Florida Regional Minority Purchasing Council, Miami Florida (1979-80)
National Minority Business Council Directory	National Minority Business Council, NY, NY (1980)
San Antonio Business Development Center Directory	San Antonio Business Development Center, San Antonio Texas (1980)
Southern California Minority Vendors Directory	Managers Office of Small Business Assistance, San Diego, California (1980)
State of California Dept. of Transportation-Minority Business Enterprise List	State of California Dept. of Transportation, Sacramento, California (1981)
Western Electric Minority Source Directory	Western Electric, Greensboro, N.C. (1980)

detailed critical reviews from supervisors. A national evaluation group randomly selects and scores reporters for consistency and completeness. Every new interview or update is reviewed by the respondent firm's management before entering the D&B information system.

A master file with data on over five million firms is the result of the procedures just described. The consistency and scope of the data, however, vary with the information surveyed. For example, name, ownership, type of business, and other descriptive information are always recorded, but balance sheet and income statement data are available for less than 20 percent of the firms. Those more detailed records (approximately 800,000) are used by D&B to produce customized information packages for certain clients and are grouped in a special file called Dun's Financial Profiles (DFP). The DFP records are the source for the MBDA Financial Research Data Base.

Data Base Limitations

Approximately 34 percent of the data in the DFP file comes from interim of government policies.

Firms are not selected randomly, but find their way into the D&B data files as a result of credit inquiries. Consequently, any sample drawn from those files is not representative of all minority firms. But, since credit inquiries are a function of the type and number of suppliers with which a firm deals, and, therefore, proportional to firm size and industry, the apparent limitation becomes an attractive feature of the data base. More specifically, the firms to be found in the D&B data base are larger, older, and more successful[15] than typical minority enterprises. Also, they are predominantly in industries, such as construction, manufacturing, and wholesale--where credit inquiries constitute normal operating procedures--traditionally not attracting minority business activity. Emerging from an evolutionary process that recently has prompted better-educated and more aggressive minority entrepreneurs to enter non-traditional lines of business, the firms in the MBDA data base are quite different approximately one-third of all firms falling in that category[16]. The bias of the MBDA Financial Research Data Base helps, in this case, researchers interested in studying more established and viable sectors of minority business and models of business development.

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[15] Size is measured by either sales, employment, or profits. Age is based on the date when business operations began as recorded in every D&B report. Measures of business viability are discussed in the next section.

At times, the financial information is incompatible with basic accounting identities. While this is rare, appropriate checks had to be made to perserve the integrity of the MBDA information system.

Corporate/Non-Corporate status identifiers had to be created by interpreting the business name field. As will be discussed later, the distinction is essential to all econometric work.

It is not always clear how loans are recorded under the "Current" or "Long-Term" Liability categories and predictions on profitability are, at times, affected by this limitation.

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[16] From a special tabulation prepared by the U.S. Census for the Minority Business Development Agency.

longitudinal studies and, hopefully, will be eliminated through stricter controls of the data collection procedures.

While the problems just outlined limit the utilization of the data, unprecedented research opportunities are available to users of the new data base. The next section provides evidence supporting this statement.

Data Base Characteristics

The "descriptive file," with names and other descriptive information, and the "performance file," with yearly financial data arranged by statement date, make up the core of the MBDA data base. In each file, the variables are uniquely identified by firms' codes assigned by Dun & Bradstreet and used to link or merge these and the other files in the data base. The descriptive file contains 3,819 business names of minority firms and 2,119 names of non-minority enterprises selected, as will be explained later, for their comparability to a group of minority businesses chosen for econometric analyses. The performance file stores 8,781 minority and 6,600 non-minority yearly records falling in the manufacturing, and wholesale trade industries have small relative sizes in the Census Survey and large ones in the MBDA data base. Also, these industries grew faster, during the 1972-1977 period, than traditional lines of business within the retail trade industry.

The growth of the service industry is deceiving since this category includes declining lines of business, such as personal services, and emerging minority business activities, such as business services.

In spite of the non-random process that makes these firms available for analysis and the caution that must be exercised in judgmental generalizations, the large representation of emerging minority business allows important research to be conducted about policy environments previously left unexplored or viewed on the basis of misleading information.

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[17] According to a special tabulation prepared by the Bureau of the Census for the Minority Business Development Agency.

Construction	377	118	495	26	52,478	9	30.6
Manufacturing	361	44	405	21	12,528	2	38.5
Transp./Util.	78	15	93	5	36,527	7	21.1
Wholesale Trade	262	43	305	16	9,382	2	43.0
Retail Trade	179	69	248	13	147,189	26	22.9
Fin./Ins./R.E.	21	5	26	1	28,396	5	52.3
Services	109	42	151	8	234,321	42	41.9
Other[2]	148	32	180	10	40,576	7	27.7
TOTAL	1,535	368	1,903	100	561,395	100	30.7

[1] The latest "Census Survey of Minority-Owned Business Enterprises" was conducted in 1977. However, 1980 is chosen for the MBDA data because the largest number of records are from that year.

[2] Includes industries not classified.

[3] From the 1977 Census Survey (Table 1a) using revised 1972 data and adjusted 1977 data.

SOURCE: U.S. Census, 1977 Survey of Minority-Owned Business Enterprises.

[redacted]

The data arrives from Dun & Bradstreet in IBM standard labeled tapes, ouped in records of 2,015 bytes (characters) in length sorted by D&B code mbers. These unique ID's assigned by D&B to each firm are used in the MBDA ta base to identify and link records when different files are merged. In the iginal D&B tapes, firm identifiers (such as address and legal status) are mbined with operational information (such as employment), financial data alance sheet and income statement items), and complemented with business tios of the firm and the firm's industry. Only firm identifiers, some operational formation, and financial data (approximately 700 bytes) are transferred into e MBDA Financial Research Data Base. The six related files of the MBDA ata Base are described below.

Two files represent the core of the system. One, referred to as the lescriptive file," contains firm identifiers such as the D&B code number, siness name, location, and other descriptive information (see Table 3). The her, called the "performance file," contains yearly financial data arranged by atement date from 1974, the earliest year available, to 1982, the latest.

[redacted]

78-79	State	STATE
80-81	Industry Code (a)	INDUS
82-86	Zip Code	ZIP
87-90	SIC Code (4-digit)	SICC
91-94	Year Operation Began	YRSTRT
95-100	No. of Employees (b)	EMP
101	Corporate/Non-Corporate Status (c)	CORP
102	Source Tape Identification (d)	SOURCE

NOTES:

(a) A two-byte field where the first byte indicates the asset size and the second byte indicates the geographic region of the firm.

(b) Coded by D&B as follows: Byte 1 = number of zeros; Bytes 2-4 = digits in the number; Byte 5 = "0" if the figure is an actual number or = "1" if the figure is symbolic of a range.

(c) A single-byte field where a "1" designates a corporation and a "0" designates a non-corporation form of business. The designation is obtained by interpreting the business name field where "Inc.", "Corporation", and an "*" indicate corporate status.

(d) A single-byte field where a letter designates the original D&B tape from which the data is derived. "N", "P", and "O" are tapes with records of minority firms. "M" and "R" are tapes with records of non-minority firms, and "Q" is a tape with updates of both minority and non-minority firms.

17- 17	Statement Type (b)	STTYPE
18- 18	1/1000 Indicator (c)	THOU
19- 28	Cash	CASH
20- 38	Accounts Receivable	AR
39- 48	Notes Receivable	NR
49- 58	Inventory	INV
59- 68	Other Current Assets	OCA
69- 78	Total Current Assets	TCA
79- 88	Fixed Assets	FA
89- 98	Other Non-Current Assets	ONCA
99-108	Total Assets	TA
09-118	Accounts Payable	AP
19-128	Loans	LOANS
29-138	Notes Payable	NP
39-148	Other Current Liabilities	OCL
49-158	Total Current Liabilities	TCL
59-168	Other Long-Term Liabilities	OLTL

[redacted]

209-218	Gross Profits	GROSS
219-228	After-Tax Profits	ATP
229-238	Dividends	DIV

NOTES:

(a) A single-byte field where a letter designates the original D&B tape from which the data is derived. "N," "P," and "O" are tapes with records of minority firms. "M" and "R" are tapes with records of non-minority firms, and "Q" is a tape with updates of both minority and non-minority firms.

(b) A one-byte code indicating the type of financial statement from which the data were extracted. Statements may be of the following types: fiscal = 1; interim = 2; individual (meaning one plant of a multi-plant establishment) fiscal = 3; combination (meaning all plants) = 4; pro forma = 5; combination interim = 6; individual interim = 7.

(c) A single-byte code indicating if the data in the original D&B file had been divided by 1000.

[redacted]

	6	Depreciation	DEPR
MINORITY GROUP	1 & 2	Dun's Code Number	DUN
	3	Verification Date (c)	VRDATE
	4	Minority Group Code (d)	ETHNIC
DISCONTINUANCES	1 & 2	Dun's Code Number	DUN
	3	Type of Discontinuance (e)	DTYPE
	4	Date of Discontinuance	D
CYCLICAL INDICATORS	1	State	STATE
	2	1978 Per Capita Income (f)	INC 78
	3	1979 Per Capita Income (f)	INC 79
	4	1980 Per Capita Income (f)	INC 80

7 Unemployment in 1980 (g) UNEM 80

NOTES:

(a) Tax and depreciation variables may be available for up to three years, in which case, the fields listed are repeated for each of the years that are available.

(b) A one-byte code indicating the type of financial statement from which the data were extracted. Statements may be of the following types: fiscal = 1; interim = 2; individual (meaning one plant of a multi-plant establishment) fiscal = 3; combination (meaning all plants) = 4; pro forma = 5; combination interim = 6; individual interim = 7.

(c) Date when the minority group affiliation has been verified.

(d) A single-byte alphanumeric field with the following designations: 1 = Black; 2 = Mexican-American; 3 = Puerto Rican; 4 = Cuban; 5 = other Spanish-American; 6 = American Indian; 7 = Eskimo, Aleutian; 8 = Asian American; 9 = other minorities; 0 = non-minority disadvantaged; M = minority identifer non available.

(e) A single-byte code designating termination of business activity as follows: 1 = bankruptcy; 2 = change of name or ownership; 3 = termination of business activity for reasons other than bankruptcy.

(f) Source: Regional Economic Information System Bureau of Economic Analysis; U.S. Department of Commerce, August, 1982.

(g) Source: U.S. Department of Labor, Bureau of Labor Statistics, "Geographic Profile of Employment and Unemployment," 1980 (Bulletin No. 2111), 1979 (Report No. 619), 1978 (Report No. 571).

8,374 descriptive records and 20,527 financial records. Since each financial record has balance sheet and income statement data from a given year, on the average, there are 2.5-year records for each firm[18]. The original records are stripped of complementary data (ratios, industry norms, etc.), merged and sorted into "minority" and "non-minority" files, and, then, purged of duplicate or overlapping data[19]. These steps reduce to 5,938 the number of usable records in the descriptive minority and non-minority files (3,819 minority and 2,119 non-minority firms) and to 15,381 (8,781 for minority and 6,600 for non-minority) the records in the "performance" files.

To better evaluate the quality and scope of the data base, a count of business services are the industrial sectors with most records. They represent, respectively, 25, 20, 16, 15, and 9 percent of the total. The count is complemented by summary statistics (mean, median, standard deviation, minimum and maximum values to be found in separate exhibits), for each of seven major financial variables. These are accounts receivable (AR), total current assets (TCA), total assets (TA), total current liabilities (TCL), net worth (NW), total sales (NS), and after-tax profits (ATP). Most, but not all, of the variables have positive values. Several are equal to zero, and few are expressed in negative numbers. The longitudinal consistency of the data can be observed in the tables of Appendix II. The tables indicate how many firms with a financial record in 1980, the year with the largest number of observations, also have financial records in preceeding or succeeding years. Table II.1 shows comparable records during the 1975-1982 period. To extend the analysis to each major variable, only observations with values greater than zero are compared in Tables II.2, II.3, II.4, and II.5. This approach is necessary since some of the zero values

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[18] D&B maintains up to three years of data for all firms in their files. However, data are available for shorter periods when a firm is newly added to the data base or if it discontinued reporting for one or two years. When three years are available, these may or may not be consecutive years.

[19] Since records are updated and revised often, it is possible to have in two different D&B tapes a balance sheet and an income statement from an interim and a fiscal statement of the same year. The merging procedure selects a fiscal over an interim statement.

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[20] The financial record of non-minority firms analyzed in the Appendix are 6,597 instead of 6,600 because three records are for years other than those in the 1974-82 period shown in the tables.

[redacted]

o Special Purpose Files

The special purpose files have been designed to meet the following research objectives:

(1) Estimating linear regression models that explain business profitability for a selected group of minority firms and a comparable group of non-minority "control" firms. Firms, in these files, are chosen only if they have complete financial records during the years of 1979 and 1980.

(2) Applying discriminant analysis to "good" and "bad" performers (in terms of profitability) to isolate variables that discriminate between the two groups.

(3) Exploring, using regression techniques and discriminant analysis, the relative impact of business cycles on minority and non-minority businesses, and the relative impact of firm age on profitability.

from interim statements; and, the other, a sub set of the first, having only records with original data for all the major financial variables.

Since the analysis files were created before the most recent data updates that prompted the compilation of longitudinal files, they were derived directly from D&B source tapes, employing some of the steps described in the preceeding section. Ordinarily, special purpose files would be extracted from the longitudinal file or its updates.

Only five of the six source tapes described earlier are used in producing the analysis files[21]. They contain 6,227 records[22] of which 3,986 are of minority and 2,241 are of non-minority firms.

First, as in the case of the longitudinal files, all of the complementary information is deleted from D&B "source" tapes. Then, the data is subjected to the following checks and refinement procedures.

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[21] The sixth tape used in the creation of the longitudinal files contains 2,172 updates of the minority and non-minority records existing in the other five tapes.

[22] Adding the 2,172 updates (see preceeding footnote) and subtracting 25 duplicate records deleted from the D&B source tapes before using them to produce the longitudinal file, one obtains the total of 8,374 records quoted earlier as the sum of the records in the six available D&B source tapes.

described earlier is used: records with fiscal year statements are preferred over those with interim statements, and, among fiscal year statements, the one closest to the end of the year is chosen.

(3) Any one of the financial data is larger than $99,999,999 (recorded in the D&B tapes as divided by 1,000). Twenty-two records are deleted for this reason. The deletion is made to avoid the problems caused, in the analysis, by a few values varying too greatly from the average. Problems caused by extreme outlyers are discussed later in more detail (see page 69).

(4) They have been verified and found belonging to firms not minority-owned. Only three records were deleted for this reason.

Subtracting the 1,199 records deleted for the above reasons from the original 3,986, there remain 2,787 minority firm records and they are chosen for inclusion in the "analysis" files. However, these records may be modified as follows:

(a) If the terms of certain accounting equalities differ by more

(i) Total Assets (TA) = Total Liabilities (TLIAB).

(ii) Total Current Assets (TCA) = Cash (CASH) + Accounts Receivable (AR) + Notes Receivable (NR) + Other Current Assets (OCA).

(iii) Total Assets (TA) = Total Current Assets (TCA) + Fixed Assets (FA) + Other Non-Current Assets (ONCA).

(iv) Total Current Liabilities (TCL) = Accounts Payable (AP) + Loans (LOANS) + Notes Payable (NP) + Other Current Liabilities (OCL).

(v) Total Liabilities (TL) = Other Long-Term Liabilities (OLTL) + Deferred Credits (DC) + Total Current Liabilities (TCL) + Net Worth (NW).

(b) When the name of the business indicates a corporation or it has been so annotated by D&B, a "1" or a "0" are entered in a special field to denote corporate or non-corporate status. All records are affected by this modification.

(e) All 1979 data are expressed in 1980 dollars by using the appropriate Consumer Price Index (CPI) for all commodities. An appropriate Producer Price Index for each of the major industries would have been preferable, but not sufficient details for both the data and the index were available to insure adequate matching of the two[23].

(f) After-Tax Profits (ATP) data is missing in 1,267 records. Sales (NS) data is missing in 914 records[24]. For 1,272 records, either ATP or NS or both are estimated in order to obtain a greater number of observations for life-cycle studies. The method used for the estimates is described in Appendix III. The estimates are identified as such by placing them in separate fields from those assigned to the original values and by entering appropriate "flag" notations in the records.

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[23] The slight difference in accuracy, however, would have had a negligible effect on the results of the analyses conducted with the data.

[24] As mentioned earlier, all profit and sales data obtained by D&B from "interim" statements are changed into a designation of missing values.

In summary, a file for the purpose of studying firm life cycles has the following characteristics: variables are from statements year-marked 1979 and 1980; the file contains estimates for missing ATP and NS values and has the largest number of observations possible from the original tapes in any two consecutive years. An ethnicity code qualifies the ownership of several firms, tax and depreciation information is shown for more than half of the records, few of the firms have data on discontinued operation, and all of the records contain cyclical indicators.

Tables 6 and 7 show the distribution of firms by sales and industry categories before and after missing sales values have been estimated. Of the 1,006 records with missing sales data, 913 have been estimated[26], augmenting the number of observations that could be used in studies such as the one conducted on the life cycles of minority firms and reported in Section III. The estimated sales figures, besides increasing the size of each sales group category

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[25] Unfortunately, it is not clear from the records when tax data includes state taxes and when depreciation reflects a cumulative value. The additional information will be collected by D&B at some future time.

[26] The data needed for the estimating equations were not available for 69 firms. ATP and NS were left as missing for these firms. The estimating procedure is outlined in Appendix III.

TABLE 6

MBDA FINANCIAL RESEARCH DATA BASE ANALYSIS FILE[1]

MINORITY FIRMS BY SALES CATEGORIES, LEGAL STATUS, AND MAJOR INDUST

INDUSTRY	SALES (In Thousands Of Dollars) LESS THAN $100	$100-$199	$200-$499	$500-$999	$1,000 & Over	MISSING
			Corporations			
Construction	3	26	65	88	168	164
Manufacturing	8	18	61	55	181	169
Transp./Util.	2	2	21	18	37	38
Wholesale Trade	8	12	44	45	158	127
Retail Trade	13	23	50	45	58	77
Fin./Ins./R.E.	-	1	4	2	8	14
Services--Other	7	7	38	17	32	59
Services--Bus.	9	16	29	22	46	76
Other	3	-	6	3	4	14
TOTAL	53	105	318	295	692	738
Percent of Total	2	5	14	14	31	34
			Non-Corporations			
Construction	14	17	30	16	19	78
Manufacturing	3	7	6	9	8	39
Transp./Util.	2	5	5	4	2	7
Wholesale Trade	1	2	8	5	12	31
Retail Trade	13	10	28	12	8	39
Fin./Ins./R.E.	-	2	1	-	3	3
Services--Other	6	8	13	5	7	39
Services--Bus.	5	7	6	1	4	28
Other	2	2	-	-	-	4
TOTAL	46	60	97	52	63	268
Percent of Total	8	10	17	9	10	46

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[1] The file contains sales data from 1979 and 1980 statements expressed in 1980 dollars.

TABLE 7

MBDA FINANCIAL RESEARCH DATA BASE ANALYSIS FILE WITH ESTIMATED SAL

MINORITY FIRMS BY SALES CATEGORIES, LEGAL STATUS, AND MAJOR INDUST

	SALES (In Thousands Of Dollars)					
INDUSTRY	LESS THAN $100	$100-$199	$200-$499	$500-$999	$1,000 & OVER	MISSING
				Corporations		
Construction	18	45	96	121	219	15
Manufacturing	12	31	101	86	249	13
Transp./Util.	8	6	32	25	46	1
Wholesale Trade	13	20	63	75	216	7
Retail Trade	21	30	73	60	76	6
Fin./Ins./R.E.	-	1	7	4	17	-
Services--Other	14	16	52	28	47	3
Services--Bus.	15	27	44	41	61	10
Other	3	-	6	3	4	14
TOTAL	104	176	474	443	935	69
Percent of Total	5	8	22	20	42	3
				Non-Corporations		
Construction	30	29	53	27	30	5
Manufacturing	18	12	14	14	11	3
Transp./Util.	2	6	8	5	4	-
Wholesale Trade	9	10	14	9	16	1
Retail Trade	22	15	39	17	13	4
Fin./Ins./R.E.	-	2	1	-	6	-
Services--Other	14	16	24	6	13	5
Services--Bus.	16	16	10	3	4	2
Other	2	2	-	-	-	4
TOTAL	113	108	163	81	97	24
Percent of Total	19	18	28	14	17	4

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[1] The file contains sales data from 1979 and 1980 statements expressed in 1980 dollars. A
estimated for most firms missing this data.

construction, manufacturing, wholesale and retail trade while only 71 percent of the non-corporate businesses are in those industries. Summary statistics of the sales data are shown in Table 8. A procedure similar to that just described for the minority analysis file is employed to produce an analysis file of non-minority businesses. It contains 1,910 records distributed, relative to firm location, industry group, size and legal status, similarly to those in the minority file (see Table 9). However, some differences between the two sets of data are apparent when the statistics of the data are compared (see Tables 8 and 10). The expansion of the non-minority file to allow more precise comparative studies has been planned and should be accomplished within a year. Presently, acceptable comparability between the minority and the non-minority group has been obtained for a smaller number of records. This smaller file is described below.

To produce files of records adequate to study the determinants of profitability, stricter requirements are placed on the data. More specifically, all records containing data from interim statements, missing after-tax profits, sales, accounts receivable, total current liabilities, net worth, or having sales figures greater than $50 million, are deleted. These restrictions reduce the number of records in the minority file from 2,787 to 1,293.

TABLE 8

MBDA FINANCIAL RESEARCH DATA BASE

SUMMARY STATISTICS OF SALES DATA IN THE MINORITY ANALYSIS FILE WITH

INDUSTRY	MEAN		MEDIAN		STD. DEV.		MINIMUM		
	CORP.	NON-CORP.	CORP.	NON-CORP.	CORP.	NON-CORP.	CORP.	NON-CORP.	CORP
Construction	2,411	786	857	311	6,317	1,772	3	15	72,53
Manufacturing	3,222	876	1,027	259	9,087	1,731	3	15	153,55
Transp./Util.	1,808	629	671	392	4,107	742	26	28	38,10
Wholesale	3,643	968	1,200	436	8,889	1,681	2	33	93,76
Retail	1,485	525	531	240	3,589	750	3	22	36,07
Fin/Ins/RE	6,979	3,030	1,274	1,225	13,463	3,580	139	159	57,55
Services--Other	2,339	1,265	456	229	7,818	3,443	4	23	71,29
Services--Business	1,166	419	546	149	1,557	982	4	7	8,28

TABLE 9

MBDA FINANCIAL RESEARCH DATA BASE ANALYSIS FILE[1]

NON-MINORITY FIRMS BY SALES CATEGORIES, LEGAL STATUS, AND MAJOR INDUS

SALES (In Thousands Of Dollars)

INDUSTRY	LESS THAN $100	$100-$199	$200-$499	$500-$999	$1,000 & OVER	MISSING
				Corporations		
Construction	13	37	62	94	161	-
Manufacturing	11	23	71	75	169	-
Transp./Util.	3	10	15	23	31	-
Wholesale Trade	9	14	37	64	154	-
Retail Trade	21	26	44	55	64	-
Fin./Ins./R.E.	-	3	1	2	6	-
Services--Other	6	10	33	25	42	1
Services--Business	7	18	32	32	48	-
TOTAL	70	141	295	370	675	1
Percent of Total	5	9	19	24	43	-
				Non-Corporations		
Construction	14	24	31	28	21	-
Manufacturing	5	8	4	9	5	-
Transp./Util.	1	4	4	3	4	-
Wholesale Trade	2	5	9	8	12	-
Retail Trade	13	20	29	14	11	-
Fin./Ins./R.E.	-	1	-	-	2	-
Services--Other	7	10	12	11	4	-
Services--Business	5	6	5	2	5	-
TOTAL	47	78	94	75	64	-
Percent of Total	13	22	26	21	18	-

[1] The file contains financial records from 1979 and 1980 statements expressed in 1980 dolla
the Construction industry ($200-$499 category) and of one firm in the Services--Business i
have been estimated.

TABLE 10

MEDA FINANCIAL RESEARCH DATA BASE

SUMMARY STATISTICS OF SALES DATA IN THE NON-MINORITY ANALYSIS FILE

INDUSTRY	MEAN		MEDIAN		STD. DEV.		MINIMUM		
	CORP.	NON-CORP.	CORP.	NON-CORP.	CORP.	NON-CORP.	CORP.	NON-CORP.	C
Construction	1,858	915	850	383	3,319	2,452	39	37	29,
Manufacturing	3,195	796	937	379	7,143	1,423	43	54	67,
Transp./Util.	1,744	801	664	366	3,193	875	77	79	22,
Wholesale	3,264	1,545	1,222	599	6,153	2,516	32	29	57,
Retail	1,712	494	585	263	4,700	738	9	42	45,
Fin/Ins/RE	1,489	1,360	732	1,463	1,390	1,190	121	121	3,
Services-- Other	1,676	607	590	294	4,722	1,173	52	8	48,
Services-- Business	1,183	806	655	237	1,635	1,406	41	15	9,

of records in the minority and non-minority groups and Tables 13 and 14 list the statistics of sales data from the two comparable files.

Using The Data Base

In this project, the data base was used to determine the viability of minority entrepreneurship in non-traditional lines of business, to compare the profitability of minority firms with their non-minority counterparts, and to observe life cycle behavior of minority business enterprises.

The next section describes the results of the analyses in detail. Generally, the econometric models exhibited excellent explanatory power and indicated that the Dun & Bradstreet data, once carefuly verified, are stable and capable of supporting rigorous research.

The data files are, in the present form, easily called in and used with standard statistical packages, such as SAS and SPSS[27]. Finally, in the present

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[27] SAS ("Statistical Analysis System") and SPSS ("Statistical Package For The Social Sciences") are languages used to take advantage of contemporary methods of computerized data analyses typically used by social scientists to perform statistical analyses and tests.

TABLE 11

MBDA FINANCIAL RESEARCH DATA BASE/COMPARATIVE ANALYSIS FI

MINORITY FIRMS BY SALES CATEGORIES, INDUSTRY, AND LEGAL ST

SALES (In Thousands Of Dollars)

INDUSTRY	LESS THAN $100	$100-$199	$200-$499	$500-$999	$1,000 & OVER	TOTAL	P
			Corporations				
Construction	3	21	48	64	120	256	
Manufacturing	5	13	44	44	124	230	
Transp./Util.	1	2	17	13	29	62	
Wholesale Trade	6	6	31	35	114	192	
Retail Trade	10	20	44	36	42	152	
Fin./Ins./R.E.	-	1	2	2	4	9	
Services--Other	4	4	29	10	25	72	
Services--Business	8	14	22	13	35	92	
TOTAL	37	81	237	217	493	1,065	
Percent of Total	4	8	22	20	46	100	
			Non-Corporations				
Construction	11	12	24	15	13	75	
Manufacturing	3	3	4	6	7	23	
Transp./Util.	-	4	3	4	1	12	
Wholesale Trade	1	2	4	3	5	15	
Retail Trade	13	5	20	11	6	55	
Fin./Ins./R.E.	-	1	-	-	2	3	
Services--Other	5	6	11	3	4	29	
Services--Business	5	5	4	-	2	16	
TOTAL	38	38	70	42	40	228	
Percent of Total	17	17	31	18	17	100	

TABLE 12

MBDA FINANCIAL RESEARCH DATA BASE/COMPARATIVE ANALYSIS FIL

NON-MINORITY FIRMS BY SALES CATEGORIES, INDUSTRY, AND LEGAL S

SALES (In Thousands Of Dollars)

INDUSTRY	LESS THAN $100	$100-$199	$200-$499	$500-$999	$1,000 & OVER	TOTAL	PE
			Corporations				
Construction	5	22	45	61	120	253	
Manufacturing	6	10	43	47	123	229	
Transp./Util.	1	6	11	17	24	59	
Wholesale Trade	5	7	28	42	110	192	
Retail Trade	12	20	40	38	43	153	
Fin./Ins./R.E.	-	2	1	2	3	8	
Services--Other	4	5	26	13	25	73	
Services--Business	7	13	22	19	32	93	
TOTAL	40	85	216	239	480	1,060	
Percent of Total	4	8	20	23	45	100	
			Non-Corporations				
Construction	9	17	20	18	11	75	
Manufacturing	2	6	4	6	5	23	
Transp./Util.	-	3	3	2	1	9	
Wholesale Trade	1	1	5	3	5	15	
Retail Trade	10	13	15	11	6	55	
Fin./Ins./R.E.	-	1	-	-	-	1	
Services--Other	6	5	8	5	4	28	
Services--Business	4	5	3	-	2	14	
TOTAL	32	51	58	45	34	220	
Percent of Total	14	23	26	21	16	100	

TABLE 13

MBDA FINANCIAL RESEARCH DATA BASE

SUMMARY STATISTICS OF SALES DATA IN THE COMPARATIVE ANALYSIS FILE OF

	MEAN		MEDIAN		STD. DEV.		MINIMUM		
INDUSTRY	CORP.	NON-CORP.	CORP.	NON-CORP.	CORP.	NON-CORP.	CORP.	NON-CORP.	O
Construction	2,084	853	881	336	3,554	2,020	57	32	29
Manufacturing	3,497	1,347	1,099	639	7,011	2,180	35	44	43
Transp./Util.	1,912	537	941	404	2,848	399	26	128	12
Wholesale	3,407	1,720	1,352	528	6,237	2,755	22	83	49
Retail	1,529	482	523	250	4,200	548	17	22	36
Fin/Ins/RE	3,039	2,973	684	1,553	6,215	3,733	139	159	19
Services-- Other	1,405	881	463	283	2,099	1,993	42	23	11
Services-- Business	1,201	417	531	174	1,477	821	16	14	7

TABLE 14

MBDA FINANCIAL RESEARCH DATA BASE

SUMMARY STATISTICS OF SALES DATA IN THE COMPARATIVE ANALYSIS FILE OF NON-

	MEAN		MEDIAN		STD. DEV.		MINIMUM		
INDUSTRY	CORP.	NON-CORP.	CORP.	NON-CORP.	CORP.	NON-CORP.	CORP.	NON-CORP.	CORP
Construction	1,985	764	925	324	3,295	1,653	50	37	29,14
Manufacturing	3,417	942	1,044	381	6,752	1,623	43	54	41,49
Transp./Util.	1,966	632	746	360	3,572	808	85	105	22,58
Wholesale	3,091	1,542	1,296	561	5,377	2,204	32	79	42,40
Retail	1,669	402	524	238	4,973	377	9	42	45,47
Fin/Ins/RE	1,291	792	515	792	1,426	949	125	121	3,93
Services--Other	1,240	748	511	292	1,968	1,449	52	8	13,31
Services--Business	1,211	339	571	165	1,683	508	41	15	9,66

[redacted]

strongly indicate that the incentives necessary to attract talented members of minority groups into entrepreneurial pursuits are lacking in most traditional lines of minority enterprise[28].

History suggests that minority entrepreneurship has been shaped by limited access to credit and capital, limitations on educational and training opportunities, and society's attitudes about the roles that minorities should assume[29]. Thus, shoeshine and repair became a common line of minority entreprise, while construction company ownership was limited by excluding minorities from most apprenticeship programs in the business trades. Educated members of minority groups traditionally avoided the business world. Past limitations have been changing in recent years, easing many of the barriers to minority business progress. Availability of government loan guarantees (against default risk) induced thousands of banks to extend loans to minority businesses and eroded a tradition of minimal contact between minorities and commercial worth of local public works for minority enterprises, they are increasingly being utilized by all levels of government in the 1980's. The growing political power of Blacks and Hispanics in many central cities helped set-asides and similar preferential programs for minority businesses to proliferate in recent years. A recent U.S. Department of Commerce-sponsored study of 33 major cities found that only three of the cities--Boston, St. Louis, and San Francisco--had no major or significant programs for minority business development. New York, Chicago, Los Angeles, Philadelphia, Detroit, New Orleans, Dallas, and Minneapolis are among the large cities which have shown "major support for minority business development activities"[30].

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[28] Timothy Bates, "Profitability In Traditional And Emerging Lines Of Black Business Enterprise," Journal Of Urban Economics (April, 1978), pp. 163-170.

[29] Timothy Bates, "Black Entrepreneurship And Government Programs," Journal Of Contemporary Studies (Fall, 1981), pp. 60-63.

[redacted]

Targeting corporate procurement dollars to minority firms became widespread in the 1970's, and it is often supplemented by more comprehensive assistance packages. Large corporations in the consumer product industries routinely target procurement dollars to minority firms, such as advertising to minority-owned publications and broadcasters, and deposits to minority-owned talent and capital. Opportunities created by set-asides, preferential procurement policies, and the like have induced better educated, younger minority entrepreneurs to create and expand firms in areas such as contracting, wholesaling, and manufacturing. While the traditional minority business community consisted predominantly of very small firms serving a ghetto clientele, the lure of opportunity in recent years has induced entrepreneurs to create larger firms that are oriented more toward a corporate and government clientele.

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[30] National Institute of Government Purchasing, Inc., "Minority Business Participation In State And Local Governments," unpublished manuscript, pp. 3-10.

Conceptual Premises

The econometric work done for this project investigates minority business profitability. Also, identical econometric models are used on comparable groups of minority and non-minority firms to observe differences between the two groups that could have policy implications.

Profits, the dependent variable, are defined in an accounting sense; i.e.,

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[31] See Johnnie Roberts, "Threatening Boycotts, Jesse Jackson's PUSH Wins Gains For Blacks," Wall Street Journal (July 21, 1982), pp. 1 and 25.

[redacted]

economic business conditions.

o Hypothesized Relationships

(1) Firms having larger inputs of owner's non-human capital, measured by business net worth, tend to have higher profits.

(2) Proprietorships and partnerships tend to have higher reported profits, other things being equal, than corporations. Corporations treat wages paid to the owner/entrepreneur as an explicit labor cost that is deducted from reported profits. For proprietorships and partnerships, in contrast, the labor input of the owner/entrepreneur is rewarded through an implicit wage payment that is not deducted from firm profits. Profits are, therefore, equivalent to returns to the owner of proprietorships and partnerships; corporation owners, in contrast, receive explicit wages as a return for their labor input and reported profits most directly reflect their return to capital inputs.

(3) The value of a firm's production, other things being equal, is

entrepreneur does not work as hard or lacks business acumen relative to the other entrepreneurs in the field. If the owner-entrepreneur wage payments exactly reflected the marginal revenue product of his or her labor inputs, this distortion would not arise. While this assumption of wage, marginal revenue product equality is universal in the realm of theory, it would be quite unrealistic to impose such an assumption upon this real-world modeling effort in which entrepreneurs are working with aggregated quantities, that is, lumpy input factors in an environment of considerable uncertainty.

(4) Firms having greater financial liquidity, measured by cash and accounts receivable minus current liabilities, tend to have higher profits. The effects of liquidity on profits are caused by imperfections in capital markets. A firm's ability to meet current liabilities affects profitability in two ways: in the short-run, being liquid allows one to realize discounts offered for prompt payment of bills and, in the long-run, being liquid gives one greater access to trade credit, which is vital to most growing enterprises.

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[32] See Timothy Bates, Black Capitalism: A Quantitative Analysis (New York: Praeger, 1973), p. 58.

problem of biased sample selection. Government programs, directed to assist under-privileged entrepreneurs, have provided limited and biased data. Sampling partially on the basis of expected business weakness necessarily skews the findings of minority enterprise researchers. Also, studies based upon non-government data sources have systematically under-represented the most viable minority firms (see Footnote 37).

Particularly when the research objective involves judging the viability of minority-owned firms that are not economically or socially disadvantaged, traditional data sources are inadequate. And, a perfectly random cross-section sample of the minority business universe is not suitable for that research objective because the emerging business group is too small relative to the declining traditional minority business sectors.

o Randomness Of Samples

Data from the Dun's Financial Profiles (DFP) are not obtained from a random selection of minority firms in the following respects:

(1) Firms in the data base have found their way into the Dun &

common firm size measures--than the mean firm in the minority business universe and concentrated into those industries where credit inquiries constitute normal business operating procedures.

(3) Relative to all minority businesses, the sampled firms are more likely to be in construction, manufacturing, and wholesale industries, and less likely to be in retail or services.

In conclusion, the sample used in the analyses is heavily skewed toward that sub-set of minority firms which are most frequently interacting with other firms from the overall business community. Because firms in the sample tend to be larger, more established enterprises relative to the universe, they represent a more "successful" sub-set of the minority business community, dominated by the types of non-traditional minority enterprises that one wishes to investigate when studying profitable business operation.

Shortcomings Of Available Literature

It was stated earlier that studies on minority business operation, to date, have typically focused upon government efforts to promote minority entrepreneurship and most have drawn negative conclusions about specific complementary since the demonstrated failure of many government promotional efforts supports the notion that minority business programs are not addressing the basic problems that all too many minorities face--inadequate access to decent jobs, inferior education and training opportunities.

Since the federal government typically has targeted assistance to minority entrepreneurs who are "socially and economically disadvantaged," samples of firms drawn from government files necessarily are dominated by the socially and economically disadvantaged. For example, Small Business Administration (SBA) loan data have been widely utilized in minority business research efforts. The majority of government loans to minorities have been funded under the SBA's Economic Opportunity Loan (EOL) programs. The EOL program, begun in 1965, initially sought to assist solely those entrepreneurs who were living in poverty. Program eligibility later required that loan applicants be economically and socially disadvantaged. In practice, the EOL program has produced a very high

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[33] See, for example, Obsorne's criticisms of SBA's Operation Mainstream in Alfred Osborne, "The Welfare Effect Of Black Capitalists On The Black Community," The Review Of Black Political Economy (Summer, 1976), pp. 477-483. See also, Kenneth Knight and Terry Dorsey, "Capital Problems Of Minority Business Development," American Economic Review (May, 1976), pp. 328-331.

[34] William Tabb, "Viewing Minority Economic Development As A Problem In Political Economy," American Economic Review (May, 1972), pp. 33-34.

A study on the rapid growth of Black firms in the wholesale industry found that mean sales of Black wholesalers receiving SBA loans were $170,957--an amount considerably below the industry averages for all Black wholesalers as reported by the Census Bureau. Furthermore, it was found that growth in sales and employment was overwhelmingly concentrated among Black wholesalers in the $1 million plus receipts category[36].

Studies based upon non-governmental data sources have been similarly skewed. One of them, for example, utilized loan data on minority-owned firms to examine the loan repayment records of minorities which had borrowed from eight Philadelphia banks. It was found that the delinquency and default rate among these loan recipients was 58 percent, but the conclusion was flawed because the sample selection technique guaranteed an over-representation of weaker firms[37].

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[35] Timothy Bates and William Bradford, Financial Black Economic Development (New York: Academic Press, 1979), Chapter 9.

[36] Timothy Bates and Alfred Osborne, "The Perverse Effects Of SBA Loans to Minority Wholesalers," Urban Affairs Quarterly (September, 1979), pp. 88-90.

[37] Robert Edelstein, "Improving The Selection Of Credit Risks: An Analysis Of A Commercial Bank Minority Lending Program," Journal Of Finance (March, 1975), pp. 38-39.

Business Viability

o The Variables

Given the hypothesized relationships listed on pages 48-50, the data in the comparative analysis files described on pages 28-36 are used in estimating multiple linear regression models explaining firm profits for minority businesses.

Business balance sheet and income statement variables are recorded in dollar amounts from the most recent annual statement that was available during the 1979-1980 period. In most cases, these statements refer to the 1980 calendar year, but they sometimes refer to business fiscal years that differ from calendar years (the July 1, 1979, through June 30, 1980, fiscal year, for example, is often used). As stated in the previous section, the 1979 FY data are expressed in 1980 dollars.

All assets and liabilities are strictly business related. The following explanatory variables are used in the regression analyses:

Income Change: The percentage increase in mean per capita personal income in 1980 (relative to 1979) in the state where the business is located.

Another cyclical indicator of recessionary business conditions, the unemployment rate, was also tested, with inferior results, in the regression equations explaining profitability. When both income change and unemployment rate variables are entered as explanatory variables in the regression exercises, their high colinearity (simple correlation = .87) compromises the value of either as predictor of profits.

The dependent variable, net profits, and all independent variables stated in dollar amounts are used after having been divided by total assets. This procedure controls for heteroskedasticity--the regression equation error terms are systematically related to firm size in the absence of normalization.

o Findings

For the sampled minority-owned businesses, Table 15A displays regression results explaining profitability for minority firms in construction, manufacturing, wholesale, services, retail, and all industries. The number of firms in the

Variable	Coefficient	Coefficient	Coefficient
Sales	.0302*	.0204*	.0103*
	(.0059)	(.0084)	(.0046)
Net Worth	.2295*	.2196*	.1530*
	(.0470)	(.0528)	(.0398)
Liquidity	.0741*	.0438	.0383
	(.0448)	(.0554)	(.0356)
Corporation	- .0768*	- .1232*	- .0489*
	(.0235)	(.0342)	(.0251)
Income Change	.2960	.9145*	.3462
	(.2838)	(.3492)	(.2508)
R^2	.526	.383	.402
F	69.29	27.58	21.25
S.E.E.	.183	.186	.107
n	307	214	151

Coefficient standard errors are in parentheses.

*Statistically significant at the 0.05 level.

Variable	Coefficient	Coefficient	Coefficient
Sales	.0319*	.0329*	.0246*
	(.0077)	(.0096)	(.0031)
Net Worth	.1718*	.1883*	.1878*
	(.0465)	(.0592)	(.0217)
Liquidity	.0520	.0749	.0793*
	(.0411)	(.0580)	(.0209)
Corporation	- .1195*	- .1393*	- .1011*
	(.0227)	(.0398)	(.0127)
Income Change	.4771	1.115	.7157*
	(.3173)	(.4166)	(.1457)
R^2	.402	.428	.406
F	21.25	31.97	185.18
S.E.E.	.107	.248	.182
n	136	207	1080

Coefficient standard errors are in parentheses.

*Statistically significant at the 0.05 level.

Sales	3.015	2.262	3.219	2.849	2.479	2.746
	(3.470)	(2.705)	(3.734)	(3.420)	(2.877)	(3.235)
Net Worth	.406	.448	.338	.413	.490	.412
	(.513)	(.525)	(.424)	(.553)	(.564)	(.508)
Liquidity	.065	-.029	-.100	.044	-.047	-.003
	(.332)	(.293)	(.312)	(.398)	(.318)	(.325)
Corporation	.758	.907	.901	.781	.647	.803
	–	–	–	–	–	–
Income Change	.104	.097	.103	.107	.107	.104
	(.106)	(.101)	(.105)	(.109)	(.108)	(.106)
# Observations	307	214	151	207	136	1080

NOTE: Regression models are not estimated for Transportation/Utilities and Finance/Insurance/Real Estate industries. However, the 64 firms in these industries are included in the "Total" computations and estimates.

variables were significant in all six of the industry equations; (2) the income change variable was signficant in three cases; and, (3) liquidity was statistically significant only in two equations.

The coefficient for business net worth measures the rate of return on the owner's net investment in the business, and these estimated rates ranged from 15.30 percent to 22.95 percent.

Construction	22.95%
Manufacturing	21.96%
Wholesale	15.30%
Services	18.83%
Retail	17.18%
All	18.78%

The coefficient for sales represents the marginal profitability of an additional dollar of sales, other things being equal. Not surprisingly, this sales coefficient was found to be highest in services and lowest in wholesale. This suggests that value added as a proportion of sales is lower in wholesale than in any of the other industries. Business liquidity measures a firm's ability to meet explaining profitability for the pooled sample of 1,080 firms. The sample is derived from the minority firms comparative analysis file described on page 36 and Tables 11 and 13. The difference between the 1,293 firms in that file and the 1,080 used in the analysis is mostly due to the exclusion of Florida minority businesses from the regression exercise. Florida minority enterprises, having several atypical characteristics from the rest of the minority firms, reduce the explanatory power of the model. This problem and the analysis of the Florida minority sub-group is discussed in a previous study[38].

The dummy variable for corporate status had a very strong impact on profitability in the hypothesized direction. Its coefficient suggests that reported profits of proprietorships and partnerships consist quite heavily of implicit wage payments for owner labor inputs. Since the corporations exclude owner wage payments from their reported profits, they were hypothesized to be less profitable than non-corporations having identical net worth and sales volumes; they are, in fact, sharply less profitable.

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[38] Minority Business Development Agency, U.S. Department of Commerce: The Minority Business Development Agency Financial Research Data Base (Contractor Report: Development Through Applied Science (DeTAS), San Antonio, Texas), May, 1982, pp. 188-191.

power overall. The single most important finding in Table 15A is the generally healthy rate of return to business net worth. A high rate of return suggests business viability; furthermore, it suggests that additional injections of capital into minority businesses in the higher yielding fields may produce attractive returns to investors[39].

o The Problem Of Outlyers

In light of the very important policy implications that logically follow the finding of a high business net worth coefficient, it is worthwhile to investigate further the stability of that coefficient. In particular, it is well known that financial variables expressed in ratio form, such as those describing business net worth and liquidity, are at times highly sensitive to the presence of extreme outlyers in the data.

To cope with the problem, the extreme values of the business net worth and liquidity variables were constrained so that they could not fall below minus one (the constraint affected two of the sampled observations). But, since a re-

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[39] The stability of the coefficients relative to the presence of extreme outlyers in the data was investigated.

The final outlyer problem concerns some very large minority co whose common stock ownership is sufficiently diverse to create quest the appropriateness of the "minority ownership" label. Are these fir minority-owned? Do the econometric findings of this study someho the questions of whether these few very large firms are or are not enterprises? While the answer to the first question is unclear, question can be answered unequivocally. The econometric findings herein are absolutely unaffected by inclusion or exclusion of very lar the various regression analysis exercises. Thus far in the study, o minority firms with annual sales under $50 million have been inclu analyses. Since large firm inclusion or exclusion do not affect the e findings, firms with sales exceeding $50 million are excluded to extreme bias that these few firms impart to such summary statistics and standard deviations.

o Comparisons With Similar Non-Minority Firms

In addition to the sample of 1,080 minority firms studied herein, Bradstreet financial profiles data base has been used to create compa on non-minority firms. The samples of non-minority firms were reported mean net profits equal to 15.2 percent of total assets, slightly higher than the 13.9 percent corresponding figure for the minority businesses[40]. The most pronounced difference indicated in Table 16 concerns net worth which is clearly higher overall for the non-minorities and in four of the five major industry groups, median non-minority net worth exceeds median minority business net worth. These differences are investigated below.

Regression models explaining net profits for the comparison group firms are estimated to isolate profitability determinants that may differ between minority and non-minority enterprise. Table 17 shows the result of applying regression models to the non-minority sample.

The coefficients of several explanatory variables differ noticeably for the minority and non-minority firms. Most significantly, minorities appear to generate a higher rate of return on inputs of business net worth (in all cases but retail). Tables 15A and 17A, in conjunction, indicate that minority firms in all industry groups report low net worth to total asset ratios relative to their non-minority counterparts.

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[40] These figures are weighted by firm size to prevent the largest firms from

Total Sales	725.9	773.5	- 6.6%
Net Profits	36.3	36.8	- 1.4%
Total Assets	302.4	282.6	+ 6.5%
Net Worth	162.9	113.0	+ 30.6%
# Observations	304	307	

MANUFACTURING

Total Sales	1,027.1	1,079.9	- 5.1%
Net Profits	41.7	53.1	- 27.3%
Total Assets	449.3	527.4	- 17.4%
Net Worth	231.8	258.3	- 11.4%
# Observations	213	214	

WHOLESALE

Total Sales	1,154.1	1,200.4	- 4.0%
Net Profits	37.3	26.7	+ 29.2%
Total Assets	392.3	422.3	- 7.6%
Net Worth	225.6	105.9	+ 53.1%
# Observations	151	151	

RETAIL

Total Sales	416.5	447.8	+ 7.5%
Net Profits	20.6	18.4	- 10.7%
Total Assets	183.9	171.3	+ 6.9%
Net Worth	96.7	87.1	+ 9.9%
# Observations	136	136	

SERVICES

Total Sales	468.5	434.8	- 7.3%
Net Profits	27.8	30.2	+ 8.6%
Total Assets	263.1	235.5	+ 10.5%
Net Worth	124.6	97.1	+ 22.1%
# Observations	206	207	

Variable	Regression Coefficient	Regression Coefficient	Regression Coefficient
Sales	.0576*	.0446*	.0212*
	(.0072)	(.0066)	(.0057)
Net Worth	.1796*	.1036*	.0980*
	(.0539)	(.0398)	(.0501)
Liquidity	- .0137	.0906*	.1171*
	(.0524)	(.0415)	(.0457)
Corporation	- .1554*	- .0464*	- .0562*
	(.0286)	(.0270)	(.0295)
Income Change	.3505	- .1341	.3938
	(.3967)	(.2870)	(.3323)
R^2	.499	.512	.510
F	59.15	45.75	32.57
S.E.E.	.218	.140	.134
n	304	213	151

Coefficient standard errors are in parentheses.

*Statistically significant at the 0.05 level.

Variable	Coefficient	Coefficient	Coefficient
Sales	,0345*	.0281*	.0378*
	(.0064)	(.0089)	(.0033)
Net Worth	.2019*	.0707	.1277*
	(.0482)	(.0570)	(.0225)
Liquidity	- .0579	.0195	.0445*
	(.0427)	(.0609)	(.0219)
Corporation	- .1417*	- .1401*	- .1145*
	(.0201)	(.0381)	(.0130)
Income Change	.0876	1.6157*	.6479*
	(,3612)	(.4462)	(.1664)
R^2	.681	.361	.465
F	59.21	24.26	187.35
S.E.E.	.118	.234	.184
n	136	206	1071

Coefficient standard errors are in parentheses.

*Statistically significant at the 0.05 level.

Profit	[illegible] (.308)	[illegible] (.201)	[illegible] (.191)	[illegible] (.292)	[illegible] (.209
Sales	2.953 (3.451)	2.649 (3.041)	3.262 (3.725)	2.392 (2.968)	2.584 (3.044
Net Worth	.554 (.606)	.546 (.608)	.559 (.611)	.498 (.598)	.559 (.609
Liquidity	.139 (.312)	.056 (.293)	.040 (.303)	.043 (.328)	-.088 (.310
Corporation	.756 -	.906 -	.901 -	.793 -	.647 -
Income Change	.100 (.102)	.094 (.098)	.098 (.102)	.102 (.104)	.100 (.102
# Observations	304	213	151	206	136

	Net Worth Coefficient		Percent Of Total Assets	
	Minority	Non-Minority	Minority	Non-Minority
Construction	.2295	.1796	.406	.554
Manufacturing	.2196	.1036	.448	.546
Wholesale	.1530	.0980	.338	.559
Retail	.1718	.2019	.413	.559
Services	.1883	.0707	.409	.498
All	.1878	.1277	.412	.540

The highly leveraged position of minority firms--reflected in their net worth to total asset ratios--is extremely interesting in light previously discussed regression findings. Being relatively highly levera perfectly rational in light of the 18 plus percent rate of return on busin worth inputs that is being earned by the overall sample of minority- businesses. These high returns suggest that loan funds can be pr absorbed and, indeed, the incremental profits generated when the bo money is employed may simply tend to raise the yield to business net wo other words, borrowing helps to leverage upwards their return to net Further balance sheet investigation reveals that greater minority firm leve caused by heavy reliance upon long-term debt, relative to the non-m sample. Although borrowing long-term may be profitable for many r businesses, it is not without its risks. Being highly leveraged makes bu more vulnerable to sustained periods of less profitable operations, While minorities enjoy a higher return to net worth, the non-minority sample is generally earning higher incremental profits from additional dollars of sales[42]. The pattern of higher returns to sales holds for all non-minority groups except retail (similarly, the pattern of healthier minority returns to net worth held for all industries except retail).

Although the corporate status variable performed similarly for both groups, interesting differences emerged for the income change variable. Its generally larger size and more consistent statistical significance suggests that minorities may be more prone to macro fluctuations, as indicated in the above discussion of leverage. This is a most significant finding whose policy implications will be discussed in greater detail at the conclusion of this section. Finally, the performance of liquidity as an explanatory variable should be interpreted with caution, due to its high correlation with net worth.

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[41] This is discussed further in Timothy Bates and Donald Hester, "Analysis Of A Commercial Bank Lending Program: Comment," Journal Of Finance (December

identical econometric models to these two groups.

Besides the independent variables described earlier, dummy va reflecting the major industry groups--construction, manufacturing, who retail, and services--were created; for example, the wholesale variable all wholesalers; otherwise, wholesale = 0.

No relationships are hypothesized--a priori--between presence or of profitability and the various industry group variables. The industry va were allowed to enter the discriminant analysis equations only after all other explanatory variables had been included in the discriminant functi only in those cases where their inclusion produced an increase in discriminating power that was statistically significant at the .05 level.

The group mean vectors of unprofitable and profitable firms (Tables 19) indicate that the former are quite illiquid and highly leveraged rela the latter. This is not surprising. The fact that minority and non-m unprofitable firms are producing sales--per dollar of total assets--that ar similar to those generated by the profitables is an unexpected finding.

Net Worth	.1989	.4388
Liquidity	-.1830	.0201
Sales	2.7592	2.7438
Corporation	.9008	.7935
Income Change	.1000	.1037
Wholesale	.1157	.1429
n	121	

B. Discriminant Function

Variable	Standardized Coefficient	Change In Wilk's Lambda When Variable Is Removed (Value of F Statistic)
Net Worth*	.7541	30.75
Liquidity*	.2831	4.31
Sales	.0361	0.10
Corporation*	-.1840	2.70
Income Change*	.2256	4.18
Wholesale*	.2234	4.00

Test for equality of group mean vectors: F=15.01; F Statistic is significant a the .01 level, implying that the group mean vectors are significantly different.

Net Worth	.3871	.5430
Liquidity	-.1771	.0622
Sales	2.6651	2.7277
Corporation	.9655	.8013
Income Change	.0989	.0987
n	29	1042

B. Discriminant Function

Variable	Standardized Coefficient	Change In Wilk's When Variable Is (Value of F St
Net Worth	.1173	.18
Liquidity*	.8064	9.01
Sales	.0732	.11
Corporation*	-.4142	3.50
Income Change	.0631	.08

Test for equality of group mean vectors: F=4.34; F Statistic is significan .01 level, implying that the group mean vectors are significantly differe

*Value of F statistically signficant at $\alpha = .05$ level.

coefficients. These indicate that the strongest explanatory variables for minorities are--in order of relative significance--net worth, liquidity, income change, and wholesale. A somewhat less direct test of variable explanatory power in the discriminant functions entails dropping each of the variables--one at a time--and observing the resultant change in the Wilk's Lambda statistic (which measures the degree to which the discriminating variables have forced the two groups to be as distinct as possible). When measured by the significance of the resultant Wilk's Lambda change upon variable removal, the statistically significant discriminating variables are--in order of relative significance--net worth, liquidity, income change, wholesale, and corporation--for minorities--and liquidity and corporation--for non-minorities.

The differences in discriminant function coefficients for the minority and non-minority business samples are quite substantial. Business net worth is clearly the most powerful variable for distinguishing profitable from unprofitable minority firms, and it is a trivial variable in the non-minority discriminant function. The overall leverage positions of the minority and non-minority groups are substantially different. The entire minority sample reports a mean business net worth to total asset ratio of .412--versus .539 for the non-minorities--and this difference is statistically significant at the .01 level. Accordingly, it has recession.

While the corporate status and liquidity variables functioned simila both discriminant functions, an interesting difference emerged regardin industry group variables. None of the binary variables reflecting firm in entered the non-minority discriminant function because none of these vari could significantly improve upon discriminating ability (as measured by Lambda). The wholesale variable, in contrast, was able to enter the min discriminant function, and its positive sign indicates that wholesalers are, things being equal, more likely to be profitable than minority firms operat other lines of business. This is consistent with evidence (Table 20 wholesalers had a higher incidence of births over deaths over time minorities in the other major emerging industry groups: constructio manufacturing.

Table 20 identifies broad trends in minority business formations by in groups over the 1972 to 1977 time period. Utilizing raw data from the 197 1977 Census of Minority Businesses, net rates of business formation in v fields were calculated for all Black and Hispanic firms. "Births" in Tab refers to firms in existence in 1977 which were not present in 1972; "d

1972 To 1977

	I	II	III	IV
	Births	Deaths	Net Change 1972-1977	I/I
Construction	23,410	18,567	4,843	1.2
Wholesale	3,320	2,482	838	1.3
Manufacturing	5,065	4,148	917	1.2

SOURCE: Special tabulations for the Minority Business Development Agency (MBDA) by the Census Bureau.

Retail	-.0168	.196
	(.0136)	(1.077)
Manufacturing	-.0091	.248
	(.0157)	(.869)
Wholesale	-.0168	.287
	(.0116)	(1.324)
Services	-.0090	.724
	(.0091)	(1.931)
Total	.0283***	2.852
	(.0089)	(3.492)
Business Liquidity	.0755	-.005
	(.0482)	(.335)
Business Net Worth	.2537***	.347
	(.0468)	(.490)
Corporation	-.0869	.760
	(.0293)***	--
Income Change	.4718	.113
	(.3162)	(.114)
Net Profits (dependent variable)		.137
		(.265)

R^2	.468
F	23.7
S.E.E.	.193
n	233

*Standard error in parentheses

Retail	-.0195	.231
	(.016)	(.751)
Manufacturing	.0085	.655
	(.0086)	(1.658)
Wholesale	-.0129	.502
	(.0081)	(1.968)
Services	.0152	.418
	(.0099)	(1.330)
Total	.0133***	2.939
	(.0066)	(3.783)
Business Liquidity	.1023***	.035
	(.0485)	(.317)
Business Net Worth	.1603***	.427
	(.0543)	(.506)
Corporation	-.1379***	.886
	(.0342)	--
Income Change	1.3946***	.117
	(.3583)	(.117)
Net Profits (dependent variable)		.154
		(.251)

R^2	.505
F	28.8
S.E.E.	.177
n	246

Sales		
Retail	.0297	.167
	(.0182)	(.716)
Manufacturing	.0185	.471
	(.0125)	(1.171)
Wholesale	-.0248***	.534
	(.0107)	(1.491)
Services	-.0072	.371
	(.0134)	(1.053)
Total	.0329***	2.636
	(.0104)	(2.978)
Business Liquidity	-.0253	.003
	(.0557)	(.280)
Business Net Worth	.2244***	.416
	(.0661)	(.476)
Corporation	.0525	.833
	(.0323)	--
Income Change	-.0589)	.114
	(.3998)	(.115)
Net Profits (dependent variable)		.127
		(.198)

R^2	.550
F	17.28
S.E.E.	.133
N	120

---

firm profitability from differences that might be rooted in ethnic/racial grou affiliation.

Failure In Minority Businesses Operation

Sixty-one of the 1,080 firms described used in the regression discriminant analysis models had discontinued operations by early-1983. Rep on discontinuances are generated by Dun & Bradstreet--under contrac agreement with MBDA--when one of the firms in the MBDA data base cease report yearly data because of a merger followed by a change in business n bankruptcy, or other unknown causes. More specifically, approximately one-t of these 61 discontinuances were reported by Dun & Bradstreet as busi failures while the others had ceased operation without leaving proo bankruptcy, but with enough circumstantial evidence to support the hypothes a business failure. Therefore, all 61 cases of discontinuance were use investigate failure in minority business operation.

The analytical technique for investigating the traits of discontinuance the same as that used previously in this study--multiple discriminant analys applied to distinguish minority businesses that have ceased to exist from t

as those suffering from illiquidity problems clearly emerge as the busines
likely to discontinue operations. The explanatory variables utili
discriminate between discontinuances and continuing operations are iden
those included in the previous section. Their mean values are summarize

VARIABLE	DISCONTINUED FIRMS	CONTINUING FIRMS	ALL FIRMS	UNIVARIATE F - RATIO
Net Worth*	.314	.418	.412	7.04
Liquidity*	-.136	.005	-.003	11.09
Sales	2.880	2.738	2.802	.40
Corporation	.787	.807	.806	.14
Income Change	.103	.104	.104	.01
Wholesale	.148	.139	.140	.03
Manufacturing	.148	.201	.198	1.04
Construction	.230	.289	.285	.98
Retail*	.262	.118	.126	11.01
Services*	.115	.196	.192	2.47
n	61	1,019	1,080	

*Means for these variables are significantly different at a five percent level of statistical significance.

This univariate analysis suggests that the firms which discon
operation are relatively illiquid, have low net worths, are disproportiona
the retail section, and are under-represented in services. Profits
discontinuances were 9.52 percent of total assets, versus 14.20 percent f
continuing firms. Illiquidity stands out as the strongest single trait

rongest single variable for distinguishing discontinued from continuing firms. In
rder to avoid this dominance among the industry variables, retail was ppressed in the Table 22 model, so that other relationships between industry oups and discontinuances could be observed.

As Table 22 shows, the group mean vectors corresponding to the scontinued and continuing groups of firms are significantly different (F = 2.83). contrast, the group mean vectors corresponding to the profitable and profitable groups of minority firms in a previous section (see Table 18, page) showed more clear-cut differences (F = 15.01). The weaker group vector fferences in Table 22 are partially rooted in two interrelated phenomena--small mple size is interacting with the high degree of correlation between net worth d the liquidity variable. As a result, the discriminating power of both net rth and liquidity is being compromised. Consequently, net worth is a weak scriminant function variable and its deletion (F = 1.16) does not lead to a atistically significant loss of discriminating power. Low net worth is indeed an portant trait of discontinued firms; a larger sample size, however, is needed to nfirm this finding. When two correlated variables enter into a discriminant nction exercise such as the one illustrated by Table 22, the stronger variable usually the dominant of the two. Therefore, it may be concluded that

Net Worth	.314	.418
Liquidity	-.136	.005
Sales	2.880	2.738
Corporation	.787	.807
Income Change	.103	.104
Wholesale	.148	.139
Manufacturing	.148	.201
Construction	.230	.289
Services	.115	.196
Number of Observations	61	1,019

B. Discriminant Function

VARIABLE	STANDARDIZED COEFFICIENT	CHANGE IN WILK'S LAMBDA WHEN VARIABLE IS REMOVE (VALUE OF F STATISTIC)
Net Worth	.279	1.16
Liquidity*	.439	2.87
Sales	-.166	.65
Corporation	.084	.16
Income Change	.078	.15
Wholesale*	.566	5.09
Manufacturing*	.742	7.92
Construction*	.784	8.05
Services*	.817	9.86

Test for equality of group mean vectors: F = 2.83; F statistic is sig
the .01 level implying that the group mean vectors are significantly

*Value of F statistically significant at the $\alpha = .05$ level.

The results of multi-variate analysis, shown in Table 22, are consi with the preceeding discussion of univariate analysis results. In both c illiquidity and retail emerge as traits highly associated with discontinuance the univariate analysis, however, only services emerged as the industry str associated with continued operation. While the "stronger" results of Tab depict four major industry groups--services as well as manufactu construction, and wholesale--as related to minority business continuance, must note that the retail industry was not significant when the discrimi analysis exercise was used to distinguish profitable from unprofitable firms Table 18, page 70). This suggests that the illiquidity and retail variables be related and that retail firms are probably more prone to failure becau illiquidity than is the case of services, manufacturing, wholesale, construction firms. As a final note, one must remember that the small numb discontinuances and the ambiguity as to why some firms discontinued oper reflected in the relatively weaker results shown in Table 18 suggest cauti drawing strong conclusions from the findings just reported.

Business Life Cycle Of Minority-Owned Firms

age groups. By comparing firms belonging to the different age groups, lif
characteristics of minority-owned businesses can be analyzed. Figures con
the non-minority to the minority firms used in the preceeding analyses[43]
23) indicate that the minorities are much younger businesses than th
minority comparison group. Fifty-three percent of the non-minority sam
been in business since 1965 or earlier, but only 29 percent of the m
businesses has been in operation that long. The proportion of non-minorit
started prior to 1950 is about three times greater than the corresponding
for minorities.

In order to increase the sample size available for life cycle anal
minority businesses, firms with missing data for either sales or profi
included in the remainder of the analysis. By including these observatio
minority business sample size is increased to 2,787 firms[44], of which onl
could be utilized for the present analysis. As explained earlier, the da
from 1979 and 1980 financial statements expressed in 1980 dollars. M
values for sales and profits are estimated[45] and, therefore, the 2,17
described in the rest of this section include 1,091 firms having estimated
for sales and/or profits and 1,080 firms that have complete financi

TIME PERIOD OF BUSINESS CREATION	MINORITY FIRMS	NON-MINORITY FIRMS
Before 1950	5.9 %	17.6 %
1950 - 1965	23.2	35.0
1966 - 1972	30.9	17.3
1973 - 1977	32.7	20.3
1978 - 1979	7.3	9.8
TOTAL	100.0 %	100.0 %

observations that fall into the three [illegible] age groups appear

Several features of the data in Table 24 merit careful notice:

(1) Firm size, scope, and profitability increase substantially
minority businesses grow older.

(2) The labor-intense mode of operation falls off sharply--fro
employees per $10,000 in assets to 0.81 employees--as firms become olde
means are noticeably different at a five percent level of statistical signi
In contrast, the minor differences in capital intensity that can be o
during the same aging period are, statistically, quite insignificant.

(3) Firms, on the average, become less highly leveraged as the
older. This finding is further supported by examining the changes of ne
to total assets ratios of the sampled businesses.

Mean profits and sales of the youngest minority firms examined in T
are 46 percent and 43 percent, respectively, of the corresponding mean
for the oldest group of firms. Similarly, the oldest firms have mean total

YEAR OF BUSINESS FORMATION	NO. FIRMS	SALES*	AFTER-TAX PROFITS*	TOTAL ASSETS*	NET WORTH*
1973 - 1977	727	$1,243.7	$ 48.8	$ 484.5	$163.8
1966 - 1972	649	1,765.5	81.6	831.1	290.1
Before 1966	549	2,871.3	106.9	1,455.5	529.2

YEAR OF BUSINESS FORMATION	NO. EMPLOYEES PER $10,000 OF TOTAL ASSETS	FIXED ASSETS AS A PERCENTAGE OF TOTAL ASSETS
1973 - 1977	1.34	25.0 %
1966 - 1972	0.96	27.5 %
Before 1966	0.81	25.7 %

*In thousands of dollars.

age group are estimated. The labor intensity trait, for example,
examined in the multi-variable context that discriminant analysis p
Greater labor intensity of younger minority firms could possibly reflect on
greater concentration in labor intense fields such as construction. But,
were the case, then, the correct analysis of young minority business uniqu
should stress their industry distribution rather than their labor intensity

The discriminant analysis procedure described below follows a tw
approach. The first step entails examining those variables--explaining
profitability--that were utilized in previous regression analysis models
variables--net worth, liquidity, sales, corporate status, and income chan
used to discriminate between each of the minority firm age groups and a
minority firms. Thus, the determinants of business profitability, discu
previous sections, are utilized, in step one, to identify which amo
explanatory variables more effectively describe each age grouping relativ
of the other sampled minority businesses. For example, if illiquidity
business profitability to suffer, then, this line of analysis should indicat
age grouping of firms is most plagued by illiquidity. In this mann
underlying dynamics of the profit determination process can be examinec
the minority business life cycle.

(1) Industry Variables - These are dummy variables. For a manufacturing firm, for example, the "manufacturer" variable = 1, while the other four industry variables are all = 0.

(2) Labor Intensity - Measured as number of business employees per $1,000 of total assets.

(3) Profitability - Measured as annual after-tax profits divided by total assets. It is identical to the dependent variable utilized in previous multiple regression models explaining profits.

(4) Region - Expressed as a dummy variable. If the firm is located in one of the midwestern or northeastern industrial states--commonly known as the "snowbelt"--then, region is set equal to 1; otherwise, region = 0.

Formal hypothesized relationships between the above variables used in the discriminant analysis (Table 25) and each of the minority business age groups are not specified. Nonetheless, the evidence just examined leads one to expect the following relationships to prevail:

--------	------------	-----------
Net Worth	.476	.398
Sales	2.652	2.782
Liquidity	-.001	-.012
Income Change	.103	.104
Corporation	.758	.772
Profit	.144	.151
Labor Intensity	.081	.155
Region	.239	.184
Construction	.248	.273
Manufacturing	.231	.197
Wholesale	.151	.150
Retail	.120	.117
Services	.164	.218
Number of Observations	549	1,622

VARIABLE	WILK'S LAMBDA (UNIVERIATE)	CHANGE IN WILK'S LAMBDA WHEN VARIABLE IS REMOVED (VALUE OF F STATISTIC)
Net Worth	.9908	27.41
Sales	.9987	0.87
Liquidity	.9998	8.72
Income Change	.9988	2.12
Corporation	.9998	0.17

C. Discriminant Function

VARIABLE	STANDARDIZED COEFFICIENT	CHANGE IN WILK'S LAMBDA WHEN VARIABLE IS REMOVED (VALUE OF F STATISTIC)
Net Worth	1.147	34.27
Sales	.044	.10
Liquidity	-.359	4.04
Income Change	-.025	.03
Corporation	-.121	.69
Services	-.310	4.87
Construction	-.158	1.26
Profit	-.574	9.71
Labor Intensity	-.203	2.39

sales, corporate status, and income change

discriminant function as explanatory variables. At step two, the labor inte region, profitability, and five industry type variables are allowed to enter the discriminant function only if they are capable of increasin discriminating power of the function that already contains the variables ut in step one. For example, the labor intensity available would ent discriminant function used in step one only if it could add to the discrimi power of the model containing net worth, liquidity, sales, corporate statu income change.

Table 25 shows the results of the discriminant analysis of the pre group of minority-owned businesses. Step one reveals that these firms relative to the younger minority firms--characterized by:

(1) High net worth - The strongest single trait that distinguishe oldest from the youngest minority enterprises.

(2) High liquidity - Illiquidity is clearly much more prevalent amor younger firms.

younger counterparts. Entry of the region variable "swamped" the income change variable and the latter lost its discriminatory power, indicating that oldest firms are disproportionately concentrated in the "snowbelt" states. This finding is consistent with that of oldest firms concentrated in low income growth rate states. The regional variable clearly outweighs the cyclical variable--ncome change--in this particular econometric exercise. While the regression equation models of previous sections consistently showed that the income change variable had more explanatory power than the region. This is because, while the ncome change variable explains business profitability, the region variable is explaining the geographic pattern of new firm formation since 1966. The finding suggests that minority firms, such as those found in this sample, shifted their relative concentration since 1966, favoring "sunbelt" as opposed to "snowbelt" ocations. While some of this shift may reflect geographic relocation of existing firms, it probably reflects more directly growing "sunbelt" preference for new firm formation as well as superior new firm survival rate in "sunbelt" as opposed to "snowbelt" locations. More research on this phenomenon is necessary and promises to be very enlightening.

Other step-two findings are listed below:

counterparts. This earlier finding (shown in Table 24) is confirmed in Tab
28's multi-variable context.

(3) Finally, the oldest firms are less profitable even after the influ
the other explantory variables--net worth, corporate status, etc.--is tak
account. A possible explanation of this finding is the absence of an inde
variable that would embody profitability variations. Entrepreneur human
endowments is a leading candidate for such "missing explanatory variabl
Age of firm is undoubtedly correlated to age of owner. Furthermore,
owner is directly correlated to years of education of owner in the f
sense: older entrepreneurs have fewer years of schooling, on the averag
younger minority entrepreneurs[46]. Thus, the greater profitability of the
firms reflects the fact that better educated entrepreneurs earn more th
educated ones. To clear up an apparent contradiction between Tables
26, one must observe that Table 24's finding that the oldest minority fi

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[46] This is shown in Section IIC of Timothy Bates, "The Nature Of The
Dynamic In Emerging Lines Of Minority Enterprise: Human Capital And F
Capital Considerations," (unpublished report to MBDA, 1983). Using th
and 1980 Public Use Samples from the U.S. Census, Bates found that
entrepreneurs, age 50 and over, had, on the average one and a half fewe

VARIABLE	FIRMS FORMED 1966 - 1972	OTHER FIRMS
Net Worth	.409	.422
Sales	2.696	2.772
Liquidity	-.041	-.010
Income Change	.105	.104
Corporation	.763	.771
Profit	.144	.152
Labor Intensity	.096	.153
Region	.190	.201
Construction	.248	.274
Manufacturing	.233	.194
Wholesale	.114	.166
Retail	.139	.109
Services	.227	.195
Number of Observations	649	1,522

VARIABLE	WILK'S LAMBDA (UNIVERIATE)	WHEN VARIABLE IS REMOVE (VALUE OF F STATISTIC)
Net Worth	.9997	1.09
Sales	.9995	0.73
Liquidity	.9970	6.63
Income Change	.9996	1.02
Corporation	.9999	--

C. Discriminant Function

VARIABLE	STANDARDIZED COEFFICIENT	CHANGE IN WILK'S LAMBDA WHEN VARIABLE IS REMOVE (VALUE OF F STATISTIC)
Net Worth	.197	0.53
Sales	-.052	0.06
Liquidity	-.640	5.72
Income Change	.222	1.21
Corporation	-.010	--
Wholesale	-.750	12.96
Construction	-.385	3.36
Labor Intensity	-.333	2.77

Overview of firms formed in the 1966-1972 time period: They are re similar to the overall sample of firms except that the wholesale ind considerably under-represented, construction is somewhat under-represen

26 are not inconsistent, and the older firms are indeed the less profitable ones when business size is controlled.

In summary, the unique traits of the oldest minority firms are high net worth, high liquidity, "snowbelt" concentration, low profitability, not labor-intensive operation, and under-representation in services.

Table 26 depicts the analysis of the minority enterprises formed between 1966 and 1972. Representing, chronologically, the mid-point of the observed life cycle, these firms have fewer unique traits than the oldest or youngest minority-owned businesses. Step one of the discriminant analysis exercise shows that these firms are--relative to the rest of the sampled minority businesses--characterized by:

(1) Low liquidity - Illiquidity problems clearly plague this group.

(2) Average net worth and sales levels and an average incidence of corporate ownership.

At step two, three additional explanatory variables--wholesale,

(2) These firms resemble their older counterparts in being less intensive than the younger, post-1972 minority businesses.

In summary, the minority enterprises formed between 1966 to 19 generally similar to the overall sample of firms, but they are illiquid, h under-represented in wholesale, somewhat under-represented in constructio operating with below average labor intensity.

Table 27 summarizes the results of analyzing the minority firms tha formed between 1973 and 1977. Following are the findings from step one discriminant analysis exercise:

(1) Low net worth is the strongest single trait that distinguishes younger minority enterprises from their counterparts in other age groups.

(2) Corporate status incidence is relatively high for this group: ab percent of the sampled firms created between 1973 and 1977 were corpo versus 75 percent for the other minority businesses.

FIRMS FORMED DURING THE 1973-1977 TIME PERIOD

A. Minority Business Group Mean Vectors

VARIABLE	FIRMS FORMED 1973 - 1977	OTHER FIRMS
Net Worth	.381	.437
Sales	2.805	2.722
Liquidity	-.009	-.010
Income Change	.105	.104
Corporation	.798	.753
Profit	.146	.151
Labor Intensity	.134	.137
Region	.169	.212
Construction	.285	.257
Manufacturing	.179	.219
Wholesale	.164	.143
Retail	.110	.122
Services	.216	.199
Number of Observations	727	1,444

Net Worth	.9943	17.85
Sales	.9994	.07
Liquidity	.9999	8.23
Income Change	.9996	1.07
Corporation	.9975	2.12

C. Discriminant Function

VARIABLE	STANDARDIZED COEFFICIENT	CHANGE IN WILK'S LAMBDA WHEN VARIABLE IS REMOVE (VALUE OF F STATISTIC)
Net Worth	-1.098	20.25
Sales	-.105	.33
Liquidity	.539	5.87
Income Change	-.019	.01
Corporation	.399	4.70
Region	-.395	5.01
Manufacturing	-.355	4.48
Profit	.391	2.91

Overview of firms formed during the 1973-1977 time period: They are
worth, but relatively high liquidity firms concentrated disporporationatel
the "snowbelt" manufacturing states. They are less likely t
manufacturing, more likely to be corporations, and slightly more pro
other factors being constant--than the rest of the minority firms.

showing old minority business concentration in the "snowbelt."

(2) The younger firms are more profitable than the other sampled minorities. Once again, this finding is consistent with the earlier discovery that the oldest minority businesses are below average in profitability.

(3) Finally, these firms are under-represented in manufacturing relative to their minority counterparts in other age groups.

In summary, minority businesses formed between 1973 and 1977 consist of ow-net-worth/high-liquidity firms that are concentrated disproportionately outside the "snowbelt" manufacturing states. Their under-representation in the nation's industrial belt is, also, reflected in their below average incidence in the ield of manufacturing. Finally, they are slightly more profitable--other factors being constant--and more likely to be corporations than the rest of the sampled minority firms.

Table 28 analyzes the youngest group of minority enterprises--those ormed in 1978 and 1979. Some notes of caution are appropriate at this point. very large proportion of these newest minority firms were missing sales and/or

VARIABLE	FIRMS FORMED 1978 & 1979	OTHER FIRMS
Net Worth	.422	.418
Sales	2.943	2.725
Liquidity	.053	-.018
Income Change	.103	.104
Corporation	.720	.775
Profit	.186	.145
Labor Intensity	.370	.106
Region	.211	.196
Construction	.301	.262
Manufacturing	.154	.212
Wholesale	.203	.143
Retail	.081	.123
Services	.203	.205
Number of Observations	246	1,925

B. Discriminating Power of Key Explanatory Variables

VARIABLE	WILK'S LAMBDA (INVARIATE)	CHANGE IN WILK'S LAMBDA WHEN VARIABLE IS REMOVED (VALUE OF F STATISTIC)
Net Worth	.9999	5.71
Sales	.9980	4.49
Liquidity	.9964	12.26
Income Change	.9999	1.02
Corporation	.9983	6.98

C. Discriminant Function

VARIABLE	STANDARDIZED COEFFICIENT	CHANGE IN WILK'S LAMBDA WHEN VARIABLE IS REMOVED (VALUE OF F STATISTIC)
Net Worth	-.558	8.67
Sales	.069	.24
Liquidity	.481	7.80
Income Change	-.171	1.76
Corporation	-.234	2.76
Wholesale	.451	11.34
Construction	.186	1.95
Labor Intensity	.655	26.87

Step one of the discriminant analysis characterized the youngest group of minority firms as having:

(1) Low net worth and high liquidity - The net worth is particularly low in light of the very strong liquidity positions of these firms.

(2) Low incidence of corporations.

(3) High sales relative to all other minority businesses--the only group with sales surfacing as an important distinguishing variable.

However, the truly unique nature of these youngest businesses emerges at step two of the discriminant analysis when the four additional explanatory variables--wholesale, construction, labor intensity, and profit--enter the discriminant function:

(1) Labor intensity is the strongest single trait that distinguishes the youngest from the oldest minority enterprises. They are over three times as labor intensive as the other firms. The size of this result produces suspicions of presence of outlyers in the labor intensity variable. This is in fact true, but

construction, the higher incidence of contractors is not pronounced enough to meet the test of statistical significance (F = 1.95) at a five percent level.

(3) The youngest minority firms are more profitable than their older counterparts. This finding, in conjunction with the previous finding that minority businesses formed between 1973 and 1977 were similarly more profitable, is interesting. The two newer groups clearly appear to be the most profitable segment of minority enterprise.

In summary, these newest firms are noteworthy for their high labor intensity. They are also high liquidity/low net worth firms which are disproportionately concentrated in wholesale--an area of low labor intensity. They initially appeared to be high in sales (step one), but this characteristic disappeared when the labor intensity variable entered into the discriminant function. Finally, their incidence of corporate status is low and their profitability is higher--other factors being constant--than the other sampled minority businesses.

Further investigation on the high labor intensity of the youngest minority enterprises revealed that this variable was, for several firms, more than 50 times

	Mean Value Of The Labor Intensity Variable	
	Firms Formed In 1978 and 1979	All Other Sampled Minority Firms
Labor Intensity (Unconstrained)	.370	.106
Labor Intensity 2	.204	.099
Labor Intensity 1	.167	.094

These results indicate that the youngest minority enterprises are simply much more labor intensive than the other firms, outlyers notwithstanding. When the discriminant function illustrated in Table 28, was re-estimated with labor intensity constrained to a maximum value of 1.0, the importance of labor-intensity as a unique trait of the youngest minority enterprises was simply re-emphasized. Its standardized discriminant function coefficient rose from .655 (Table 28) to .842 and the value of the corresponding F statistic rose even more dramatically--from 26.87 to 48.29. Instead of being due to a few outlyers, the labor intensity trait of the young minority enterprises becomes even more pronounced in the discriminant function when the outlyers are eliminated.

An overview of the entire life cycle discriminant analysis exercise is now in drops off sharply as the firms mature. While the older firms are more profitable in an absolute sense, the younger minority businesses earn better rates of return than their older counterparts. When firm size is taken into account, the younger minority-owned businesses are clearly the more profitable ones. Finally, two trends differentiate the younger from the older firms: the "sunbelt" location is relatively more frequent for the younger minority enterprises; and, regarding relative incidence of businesses, construction is an area in which the older firms are lagging behind the younger minority enterprises.

Policy Implications: Promoting Minority Business Development

The wide political appeal enjoyed by minority business development programs--despite documentation of program failure--merits examination. To a large extent, the breadth of the program's appeal is itself a cause of failure. Popular program goals include: job creation, particularly in high unemployment ghetto areas; creation of entrepreneurial role models; and, assistance to minority firms which might not otherwise be able to survive. The most fundamental goal conflict concerns appropriate choice of target recipients--the most deprived minorities, or those less in need of help which have much better prospects for business success. Comparing these different groups of potential beneficiaries

The Small Business Administration (SBA) has always been the foremost federal government agency involved in assisting minority enterprises. From 1969 to 1979, the SBA approved over 65,000 loans to minority entrepreneurs for approximately $3 billion. In recent years, procurement contracts have increased in importance as a component in the promotion effort. A major element of the procurement approach has been SBA's 8(a) program, in which government contracts that are normally awarded competitively are reserved for firms owned by disadvantaged--overwhelmingly, minority--businesses. SBA-awarded 8(a) contracts reached $1.006 billion in 1979, and their annual volume in the early 1980's has exceeded $1 billion[47].

SBA's major loan and procurement programs do appear to have been misdirected: promising minority firms were often not eligible for loans and procurement contracts, while the truly eligible disadvantaged firms failed in droves[48]. Data summarized in Table 29 contrast the types of firms that SBA assists--when it does venture into non-traditional lines of minority enterprise--to the minority firms analyzed earlier.

A. Median Employees Per Firm:

	I SBA	II D&B	III SBA Employment/ D&B Employment (I/II)
Wholesale	2.3-2.7	10.6	21.7-25.5%
Construction	4.3-4.7	11.7	36.7-40.2%
Manufacturing	5.0-6.8	25.0	20.0-27.2%

B. Mean Employees Per Firm:

	I SBA	II D&B	III SBA Employment/ D&B EMPLOYMENT (I/II)
Wholesale	5.8	20.0	29.0%
Construction	7.7	23.7	32.5%
Manufacturing	21.5	59.2	21.1%

NOTE: Percentage of SBA-assisted minority firms in the wholesale, construction, and manufacturing fields = 18.1 percent. In contrast, 62.2 percent of the D & B minority enterprises are in these three lines of business.

size of the sampled Dun & Bradstreet firms to the SBA-assisted minorities. This comparison is based upon employement because other scale variables, such as total assets, were not available from SBA. Data were available for three of the non-traditional lines of minority business--wholesale, construction, and manufacturing--and, in each of these categories, the Dun & Bradstreet firms are roughly three to five times larger than their SBA-assisted minority business counterparts.

Using these same SBA data in conjunction with a detailed one percent random sample of SBA minority loans, it was estimated--in another study--that 42.6 percent of the assisted minority businesses experienced loan default and/or business failure problems[49]. Of these, the smallest and least profitable generally received EOL loans--they achieved a 53.3 percent failure rate--while the larger minority firms received loans from the 8(a) program--26.4 percent of these experienced repayment difficulties. In contrast, the Dun & Bradstreet sample of minority firms were failing at an annual rate of less than two percent during 1980-1981. These failure figures are not strictly comparable since the SBA numbers measure loan default while the Dun & Bradstreet figures reflect actual business discontinuance. Nonetheless, they clearly indicate that SBA is assisting--relative to the Dun & Bradstreet sample--much smaller minority

When SBA provided loans to minorities, it is predominantly to the sm retail and service firms. The data in Table 29 on SBA loan recipients mu seen in this perspective--those firms represent only 18.1 percent of all assisted minority firms. While the lines of non-traditional minority bus examined in Table 29 received less than one-fifth of the SBA loans, nearl percent of the loans went to minority firms in the retail and service fiel whose average employment levels are less than those of the SBA-assisted fir construction, manufacturing, and wholesale. In contrast, 62.2 percent of sampled Dun & Bradstreet minority firms were in construction, manufactu and wholesale, while 31.8 percent were in the service and retail fields.

The above figures on SBA assistance to minorities are consistent wit overall picture of minority business that dominates the social science litera minority firms are predominantly small service and retail establishments, government assistance efforts have generated very high business default failure rates.

Fragmentary evidence indicates that procurement dollars and "set-asi have increasingly been used by all levels of government and by the pr sector (see pp. 45-46).

and explicitly stated in minority business development policy guidelines.

In contrast with the evidence provided by studies based on minority assisted by Federal aid programs, the major findings from the research desc in this report are summarized below.

Minority firms earned higher returns on owner's equity than their minority counterparts. This indicates viability for the sampled businesses, suggests that access to credit markets has been beneficial to firm profital The MBDA data base is dominated by minority enterprises in such non-tradi emerging lines of business as manufacturing, wholesale, and constructio represents a large part of the emerging minority business community, therefore, its problems, accomplishments, and prospects are insightfu important for comprehending the process of evolution that has been transfo minority enterprise in the last several decades. While personal service firm tiny retail firms characterize minority enterprises of the past, the minority in the MBDA data base reflect trends toward diversity and greater firm size they may typify the minority business community of the future.

When sustained recessionary conditions occur, they are expected, acco weak minority firms in traditional lines of business because more promi candidates for assistance--as typified by the MBDA data--are available. Economic Opportunity Loans (EOL) program, a major government effort of recent past directed to assist minority enterprises, was obviously misdire Under that program, promising minority firms were often ineligible for assista while eligible recipients failed in droves.

Translating research findings into policy statements is, perhaps, the challenging and elusive task confronting the social scientist. The difficulty in the fact that while research, and the theory emerging from it, reduce ev to few observable relationships, assuming "other things being equal," policy confront problems in their entirety and, implicitly or explicitly, make judgm on multi-faceted and multi-disciplinary aspects of social phenomena. The he leap from theory and systematic research to decisions on program design budget allocations must nevertheless be made and social scientists ca relinquish their share of responsibility in this process without suffering consequence of being irrelevant to their own times.

In the following paragraphs, the findings of the research just describe seen in the context of a tentative general theory of minority firm behavior limited access to capital[52]. The circular causation mechanism activated by these factors has kept minorities in "dead-end" business activities, such as neighborhood retail stores and personal services.

After 1960, a combination of demographic, social, and economic forces[53] opened some of the closed loops in the vicious circle of poverty. More specifically, better education opportunities, decreasing business and labor market discrimination, procurement and set-aside programs, and an economic environment favoring small enterprises in certain rapid growth industries caused important changes in minority business formation and discontinuances. Over time, these changes are modifying the structure of the minority economy.

Until now, the structural changes remained mostly unobserved because biased and incomplete data sources seemed to reinforce preconceived notions about the minority economy. And, the more visible and politically urgent plight

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[51] See Gunnar Myrdal, The American Dilemma (New York: Harper & Bros., 1944), p. 308 and Asian Drama: An Inquiry Into The Poverty Of Nations (New York: Pantheon, 1968), Vol. III, pp. 1844-1847.

[52] For a brief review of the pertinent literature, see Center For Studies in Business, Economics, and Human Resources, The University of Texas at San Antonio, Key Business Ratios Of Minority-Owned Businesses (San Antonio: UTSA, 1981), pp. 13-19.

Minority business in the 1980's is clearly composed of two distinct groups of enterprises having in common minority ownership, but differing significantly in almost every other business characteristic. One group is made up of traditional and declining lines of minority business. These are small retail and personal services often located in low income minority neighborhoods, run by managers with inadequate education and little access to capital markets. The other group typically consists of younger, better educated entrepreneurs who, attracted by higher returns and certain market advantages of their minority status, entered non-traditional lines of business, such as construction, wholesale, manufacturing, and business services. These upward mobile businessmen, taking advantage of favorable "set-asides", procurement policies, and low-capital requirements, created viable, but often highly leveraged businesses, which, while potentially profitable, are vulnerable to business fluctuations. Those minority businesses that survived the test of time have become larger and more stable enterprises not much different from the other establishments in their industry.

A few additional observations are important.

First, that the minority economy is not homogeneous but clearly divided in

Second, on the strength of evidence uncovered in this report, the young viable minority enterprises in growing industrial sectors are noticeably different from their non-minority counterparts. The differences are mostly in long-term indebtedness--much higher for the minority-owned enterprises--and in the labor intensive methods of production--also higher among the minority businesses--but not in profitability. Hence, the apparent contradiction: minority-owned enterprises are, as a group, just as profitable or, at times, even more profitable than the non-minority group while their incidence of zero or negative profits is found to be four times that of their non-minority counterparts. The contradiction is resolved when one observes that some of the high incidence of unprofitable minority businesses is caused by establishments in industry sectors other than the newly entered manufacturing, construction, and wholesale, and note that long-term indebtedness, perhaps unavoidable by minority entrepreneurs in their quest for better economic opportunities, increases their risk of failure as they must face "pulsating" phases of business development and the inevitable swings of the business cycle.

Third, the labor intensive quality of minority business operation--particularly present in younger firms--increases the economic and social benefits of operation. This finding is most important since it suggests that effective business development strategies can and should be narrowly focused on well-defined groups of promising minority entrepreneurs.

An interesting speculation needing further research is that historical bottlenecks to minority business development have contributed to create, in minority entrepreneurs, qualities of risk-taking and business aggressiveness not found in more secure and predictable business environments. Hence, policies directed to foster minority business development may be justified also as effective ways of nurturing values essential to the maintenance and prosperity of a free-market economy while investing in high-return business ventures.

Past public programs targeted to foster minority business development have been criticized for lack of focused leadership and of agreement on goals, inadequate utilization of limited resources, and unrealistic business expectations. The analyses undertaken in this project and the new data base, better suited for studying business viability, add a constructive dimension to that criticism by showing alternative courses of action.

The plight of small failing businesses in traditional minority industries disadvantaged should be abandoned. Assistance of non-viable firms does not alleviate poverty and unemployment. Instead, policy intended to stimulate the growth of the minority economy should focus on the two important thresholds of minority business development: entrance into non-traditional lines of business, and maintenance of liquidity by viable minority firms during the early years of their development. Once minority firms have reached industry average size and stability, they are perfectly capable of maintaining successful operations without aid.

Entrance into non-traditional lines of business by an increasing number of minority entrepreneurs requires appropriate incentives to attract private venture capital toward promising new enterprises in high-growth industries. Such a program is justified by the relatively small number of minority businesspersons in those industrial sectors, the limited experience of venture capitalists with the success-bound minority entrepreneur, and the still scarce data on this vital sector of the minority economy. Just as important is the activation of complementary programs in human resource development. The programs, to be effective, must not only encourage the enrollment of minority students in the administrative sciences and in quantitative and engineering curricula, but they must have effective out-reach training and re-training capabilities.

Minority Business Enterprise, in conjunction with the Small Business Administration (SBA), was, conceptually, a step in the right direction. However, under-capitalization and cash flow problems have characterized the operation of the program with the result that MESBIC's have often avoided equity investments in favor of granting loans whose repayment demands have pushed many minority firms into default. On the other hand, large portions of MESBIC resources were held in risk-free liquid assets such as bank certificates of deposit which were paying rates of return exceeding the MESBIC cost of funds from their government borrowings[54]. These types of inconsistencies and inefficiencies are eliminated when policy objectives are clearly and narrowly defined and program objectives appropriately targeted. Equity investments in promising minority enterprises is an essential component of minority business development. And, this type of government assistance, both directly and through appropriate linkages with the private sector, is justified by the new evidence that minority firms are under-capitalized and carry a heavier debt structure than non-minority firms while comparing favorably with their non-minority counterparts in profitability.

Finally, support to minority entrepreneurs through the thresholds just described mut be undergirted by adequate information from data rigorously collected and scrupulously maintained over time. This is indispensable, not only

courage to refute old myths and ineffective strategies and to enbr
approaches for stimulating successful business operation while maintain
strength of our competitive markets.

APPENDIX I

NUMBER OF FINANCIAL RECORDS IN THE MBDA DATA BASE

	NON-CORPORATE			CORPORATE			TOTAL		
AR	MIN.	NON-MIN.	TOTAL	MIN.	NON-MIN.	TOTAL	MIN.	NON-MIN.	TOTA
82	31	32	63	206	241	447	237	273	51
81	252	224	476	1,201	1,240	2,441	1,453	1,464	2,91
80	368	371	739	1,535	1,569	3,104	1,903	1,940	3,84
79	340	284	624	1,499	1,283	2,782	1,839	1,567	3,40
78	286	188	474	1,296	755	2,051	1,582	943	2,52
77	223	57	280	814	205	1,019	1,037	262	1,29
76	95	22	117	383	84	467	478	106	58
75	58	7	65	193	35	228	251	42	29
74	-	-	-	1	-	1	1	-	
TAL	1,653	1,185	2,838	7,128	5,412	12,540	8,781	6,597	15,37

MAJOR INDUSTRY GROUP, LEGAL AND MINORITY STATUS

CONSTRUCTION

	NON-CORPORATE			CORPORATE			TOTAL	
Year	Min.	Non-Min.	Total	Min.	Non-Min.	Total	Min.	Non-Mi
1982	6	9	15	55	65	120	61	74
1981	81	63	144	306	283	589	387	346
1980	118	119	237	377	364	741	495	483
1979	96	94	190	344	302	646	440	396
1978	80	66	146	295	190	485	375	256
1977	57	22	79	175	42	217	232	64
1976	21	8	29	80	20	100	101	28
1975	13	4	17	47	12	59	60	16
1974	-	-	-	1	-	1	1	-
TOTAL	472	385	857	1,680	1,278	2,958	2,152	1,663

TABLE I.2 (continued)

NUMBER OF FINANCIAL RECORDS IN THE MBDA DATA BASE BY YEAR, MAJOR INDUSTRY GROUP, LEGAL AND MINORITY STATUS

MANUFACTURING

	NON-CORPORATE			CORPORATE			TOT	
Year	Min.	Non-Min.	Total	Min.	Non-Min.	Total	Min.	Non-M
1982	6	2	8	41	58	99	47	6
1981	29	16	45	273	268	541	302	28
1980	44	34	78	361	354	715	405	38
1979	45	24	69	345	309	654	390	33
1978	41	17	58	312	174	486	353	19
1977	30	5	35	171	43	214	201	4
1976	16	4	20	93	20	113	109	2
1975	8	-	8	1	4	5	9	
1974	-	-	-	-	-	-	-	
TOTAL	219	102	321	1,597	1,230	2,827	1,816	1,33

NUMBER OF FINANCIAL RECORDS IN THE MBDA DATA BASE BY YEAR, MAJOR INDUSTRY GROUP, LEGAL AND MINORITY STATUS

TRANSPORTATION, UTILITIES

	NON-CORPORATE			CORPORATE			TOTAL	
Year	Min.	Non-Min.	Total	Min.	Non-Min.	Total	Min.	Non-Min
1982	-	-	-	6	7	13	6	
1981	7	8	15	44	61	105	51	6
1980	15	17	32	78	87	165	93	10
1979	15	13	28	78	66	144	93	7
1978	21	9	30	70	46	116	91	5
1977	9	5	14	64	14	78	73	1
1976	5	3	8	19	6	25	24	
1975	6	-	6	10	2	12	16	
1974	-	-	-	-	-	-	-	
1973	-	-	-	-	-	-	-	
TOTAL ppp	78	55	133	369	289	658	447	34

NUMBER OF RECORDS IN THE DATA BASE BY YEAR, MAJOR INDUSTRY GROUP, LEGAL AND MINORITY STATUS

WHOLESALE TRADE

	NON-CORPORATE			CORPORATE			TOTAL		
	Min.	Non-Min.	Total	Min.	Non-Min.	Total	Min.	Non-Min.	T
	5	6	11	40	36	76	45	42	
	26	28	54	218	233	451	244	261	
	43	39	82	262	283	545	305	322	
	33	30	63	276	245	521	309	275	
	25	19	44	224	143	367	249	162	
	21	5	26	126	28	154	147	33	
	8	-	8	49	8	57	57	8	
	8	1	9	23	4	27	31	5	
	-	-	-	-	-	-	-	-	
L	169	128	297	1,218	980	2,198	1,387	1,108	2

NUMBER OF FINANCIAL RECORDS IN THE MBDA DATA BASE BY YEAR, MAJOR INDUSTRY GROUP, LEGAL AND MINORITY STATUS

RETAIL TRADE

	NON-CORPORATE			CORPORATE			TOTAL	
Year	Min.	Non-Min.	Total	Min.	Non-Min.	Total	Min.	Non-Mi
1982	4	9	13	33	33	66	37	42
1981	49	59	108	145	178	323	194	237
1980	69	89	158	179	206	385	248	295
1979	68	72	140	192	168	360	260	240
1978	61	44	105	157	89	246	218	133
1977	46	11	57	119	25	144	165	36
1976	22	2	24	66	10	76	88	12
1975	11	-	11	30	6	36	41	6
1974	-	-	-	-	-	-	-	-
TOTAL	330	286	616	921	715	1,636	1,251	1,001

NUMBER OF FINANCIAL RECORDS IN THE MBDA DATA BASE BY YEAR, MAJOR INDUSTRY GROUP, LEGAL AND MINORITY STATUS

FINANCE/INSURANCE/REAL ESTATE

	NON-CORPORATE			CORPORATE			TOTAL	
ear	Min.	Non-Min.	Total	Min.	Non-Min.	Total	Min.	Non-Min
982	-	1	1	1	4	5	1	5
981	4	3	7	18	10	28	22	13
980	5	3	8	21	17	38	26	20
979	5	2	7	28	14	42	33	16
978	2	2	4	25	8	33	27	10
977	3	-	3	17	2	19	20	2
976	1	-	1	5	1	6	6	1
975	1	-	1	2	1	3	3	1
974	-	-	-	-	-	-	-	-
OTAL	21	11	32	117	57	174	138	68

NUMBER OF FINANCIAL RECORDS IN THE DATA BASE BY YEAR, MAJOR INDUSTRY GROUP, LEGAL AND MINORITY STATUS

SERVICES--OTHER

	NON-CORPORATE			CORPORATE			TOTAL		
r	Min.	Non-Min.	Total	Min.	Non-Min.	Total	Min.	Non-Min.	T
2	5	2	7	14	17	31	19	19	
1	30	25	55	71	93	164	101	118	
0	42	44	86	109	119	228	151	163	
9	46	29	75	90	86	176	136	115	
8	30	14	44	96	44	140	126	58	
7	27	6	33	65	26	91	92	32	
6	13	4	17	26	5	31	39	9	
5	7	2	9	17	1	18	24	3	
4	-	-	-	-	-	-	-	-	
AL	200	126	326	488	391	879	688	517	1

NUMBER OF FINANCIAL RECORDS IN THE MBDA DATA BASE BY YEAR,

MAJOR INDUSTRY GROUP, LEGAL AND MINORITY STATUS

SERVICES--BUSINESS

	NON-CORPORATE			CORPORATE			TOTA	
Year	Min.	Non-Min.	Total	Min.	Non-Min.	Total	Min.	Non-Mi
1982	4	3	7	15	21	36	19	24
1981	24	22	46	108	114	222	132	136
1980	27	26	53	128	139	267	155	165
1979	27	20	47	131	93	224	158	113
1978	22	17	39	104	61	165	126	78
1977	25	3	28	71	25	96	96	28
1976	7	1	8	39	14	53	46	15
1975	4	-	4	19	5	24	23	5
1974	-	-	-	-	-	-	-	-
TOTAL	140	92	232	615	472	1,087	755	564

NUMBER OF FINANCIAL RECORDS IN THE MBDA DATA BASE BY YEAR,
MAJOR INDUSTRY GROUP, LEGAL AND MINORITY STATUS

	OTHER							
	NON-CORPORATE			CORPORATE			TOTAL	
Year	Min.	Non-Min.	Total	Min.	Non-Min.	Total	Min.	Non-Min.
1982	1	-	1	1	-	1	2	-
1981	2	-	2	18	-	18	20	-
1980	5	-	5	20	-	20	25	-
1979	5	-	5	15	-	15	20	-
1978	4	-	4	13	-	13	17	-
1977	5	-	5	6	-	6	11	-
1976	2	-	2	6	-	6	8	-
1975	-	-	-	4	-	4	4	-
1974	-	-	-	-	-	-	-	-
TOTAL	24	-	24	83	-	83	107	-

APPENDIX II

FREQUENCY OF SELECTED FINANCIAL DATA WITH COMPARABLE OBSERVATIONS IN 1980 BY MINORITY AND LEGAL STATUS

TABLE II.1

MBDA FINANCIAL RESEARCH DATA BASE

NUMBER OF RECORDS OF MINORITY AND NON-MINORITY FIRMS WITH COMPARABLE FINANCIAL RECORDS(1) IN 1980 BY LEGAL STATUS AND MAJOR INDUSTRY

CONSTRUCTION		MANUFACTURING		TRANSP./UTIL.		WHOLESALE TRADE	
MINORITY	NON-MINORITY	MINORITY	NON-MINORITY	MINORITY	NON-MINORITY	MINORITY	NON-MINORITY
			Corporations				
48	60	29	54	5	6	31	33
202	250	177	233	29	52	146	217
377	364	361	354	78	87	262	283
202	277	211	280	39	58	146	233
149	166	188	152	40	41	115	134
70	34	56	37	26	14	46	23
27	19	32	16	4	3	15	4
10	11	12	4	1	2	4	3
			Non-Corporations				
3	7	4	2	-	-	4	6
43	56	12	14	4	7	17	26
118	119	44	34	15	17	43	39
43	88	15	22	5	13	16	29
38	65	12	15	8	9	12	19
17	20	2	5	2	5	9	4
5	7	3	4	1	3	2	-
1	4	-	-	-	-	3	-

Including values equal to zero.

TABLE II.1 (continued)

MBDA FINANCIAL RESEARCH DATA BASE

NUMBER OF RECORDS OF MINORITY AND NON-MINORITY FIRMS WITH COMPARABLE FINANCIAL RECORDS(1)
IN 1980 BY LEGAL STATUS AND MAJOR INDUSTRY

IN./INS./R.E.		SERVICES--OTHER		SERVICES--BUSINESS		OTHER		TOT	
ITY	NON-MINORITY	MINORITY	NON-MINORITY	MINORITY	NON-MINORITY	MINORITY	NON-MINORITY	MIN.	N
				Corporations					
	4	12	15	11	20	-	-	164	
	9	38	78	54	101	12	-	761	
	17	109	119	128	139	20	-	1,535	
	13	41	77	61	84	6	-	822	
	8	39	40	45	55	4	-	674	
	2	22	18	18	21	1	-	293	
	1	4	3	12	9	1	-	115	
	1	3	-	2	3	-	-	37	
				Non-Corporations					
	1	4	2	1	3	1	-	21	
	3	10	19	8	15	1	-	127	
	3	42	44	27	26	5	-	368	
	2	11	25	2	17	1	-	126	
	2	5	11	5	12	2	-	113	
	-	6	3	7	3	1	-	60	
	-	3	4	1	-	-	-	23	
	-	-	2	-	-	-	-	6	

g values equal to zero.

TABLE II.2

MBDA FINANCIAL RESEARCH DATA BASE

FREQUENCY OF SELECTED FINANCIAL DATA OF MINORITY FIRMS WITH COMPARABLE OBSERVATIONS
IN 1980 BY LEGAL STATUS

	VARIABLE						
AR	ACCOUNTS RECEIVABLE (AR)	TOTAL CUR. ASSETS (TCL)	TOTAL ASSETS (TA)	TOTAL CURRENT LIABILITIES (TCL)	NET WORTH (NW)	NET SALES (NS)	AFTE PROFITS
				Non-Corporations			
82	12	21	21	18	21	17	
81	85	127	127	121	127	99	6
80	282	367	367	360	367	301	24
79	92	126	126	122	126	101	6
78	78	113	113	111	113	82	5
77	35	60	60	56	60	41	2
76	14	23	23	23	23	17	1
75	3	6	6	6	6	5	
				Corporations			
82	139	163	164	162	164	135	10
81	619	767	769	764	769	621	50
80	1,299	1,551	1,553	1,543	1,553	1,347	1,15
79	658	836	837	832	837	688	52
78	522	684	685	678	685	539	42
77	207	291	293	289	293	220	17
76	85	115	115	114	115	85	7
75	28	37	37	37	37	29	2

TABLE II.3

MBDA FINANCIAL RESEARCH DATA BASE

FREQUENCY OF SELECTED FINANCIAL DATA OF MINORITY FIRMS WITH COMPARABLE OBSERVATIONS IN 1980 BY LEGAL STATUS AND MAJOR INDUSTRY

CONSTRUCTION

Non-Corporations

TCA	TA	TCL	NW	NS	ATP
3	3	3	3	3	3
43	43	42	43	32	22
117	117	115	117	98	86
43	43	41	43	36	22
38	38	38	38	28	20
17	17	16	17	12	9
5	5	5	5	4	5
1	1	1	1	1	0

Corporations

YEAR	AR	TCA	TA	TCL	NW	NS
1982	39	47	48	47	48	35
1981	158	202	202	201	202	160
1980	308	378	378	376	378	334
1979	158	202	202	200	202	165
1978	109	150	150	150	150	113
1977	50	70	70	69	70	57
1976	18	27	27	26	27	19
1975	8	10	10	10	10	6

MANUFACTURING

TCA	TA	TCL	NW	NS	ATP
4	4	3	4	3	1
12	12	11	12	11	9
44	44	43	44	36	27
15	15	15	15	13	10
12	12	12	12	10	7
2	2	1	2	1	0
3	3	3	3	3	1
0	0	0	0	0	0

YEAR	AR	TCA	TA	TCL	NW	NS
1982	28	29	24	29	29	22
1981	161	183	183	183	183	147
1980	324	371	371	371	371	322
1979	182	220	220	219	220	181
1978	155	193	193	192	153	154
1977	38	56	56	56	56	41
1976	28	32	32	32	32	21
1975	10	12	12	12	12	11

TRANSPORTATION/UTILITIES

TCA	TA	TCL	NW	NS	ATP
0	0	0	0	0	0
4	4	3	4	4	3

YEAR	AR	TCA	TA	TCL	NW	NS
1982	5	5	5	5	5	3
1981	26	29	29	29	29	20

TABLE II.3 (continued)

MBDA FINANCIAL RESEARCH DATA BASE

FREQUENCY OF SELECTED FINANCIAL DATA OF MINORITY FIRMS WITH COMPARABLE OBSERVATIONS IN 1980 BY LEGAL STATUS AND MAJOR INDUSTRY

Non-Corporations

Corporations

WHOLESALE TRADE

AR	TCA	TA	TCL	NW	NS	ATP
3	4	4	4	4	3	1
14	17	17	17	17	15	13
37	43	43	43	43	37	31
15	16	16	16	16	12	8
11	12	12	12	12	9	5
6	9	9	9	9	8	4
2	2	2	2	2	2	1
2	3	3	3	3	3	1

YEAR	AR	TCA	TA	TCL	NW
1982	30	31	31	31	31
1981	129	146	147	146	147
1980	232	263	264	262	264
1979	122	147	147	147	147
1978	92	116	116	116	116
1977	35	45	46	44	46
1976	12	15	15	15	15
1975	3	4	4	4	4

RETAIL TRADE

AR	TCA	TA	TCL	NW	NS	ATP
1	4	4	3	4	2	0
18	30	30	27	30	20	14
47	69	69	66	69	56	44
20	31	31	29	31	24	16
15	30	30	28	30	23	18
8	16	16	15	16	11	6
6	8	8	8	8	6	5
0	2	2	2	2	1	2

YEAR	AR	TCA	TA	TCL	NW
1982	20	28	28	28	28
1981	63	92	92	92	92
1980	142	180	180	180	180
1979	78	103	103	103	103
1978	57	80	80	80	80
1977	29	47	47	47	47
1976	13	19	19	19	19
1975	2	5	5	5	5

FINANCE/INSURANCE/REAL ESTATE

AR	TCA	TA	TCL	NW	NS	ATP
0	0	0	0	0	0	0
0	2	2	2	2	1	0
1	5	5	5	5	4	3
0	2	2	2	2	1	0
0	1	1	1	1	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0

YEAR	AR	TCA	TA	TCL	NW
1982	0	0	0	0	0
1981	3	11	12	11	12
1980	8	22	22	22	22
1979	1	15	15	15	15
1978	3	15	15	15	15
1977	2	7	7	7	7
1976	0	1	1	1	1
1975	0	0	0	0	0

TABLE 11.3 (continued)

MBDA FINANCIAL RESEARCH DATA BASE

FREQUENCY OF SELECTED FINANCIAL DATA OF MINORITY FIRMS WITH COMPARABLE OBSERVATIONS IN 1980 BY LEGAL STATUS AND MAJ

Non-Corporations

Corporations

SERVICES--OTHER

YEAR	AR	TCA	TA	TCL	NW	NS	ATP
1982	3	4	4	3	4	4	1
1981	6	10	10	10	10	8	4
1980	3C	42	42	42	42	32	26
1979	5	11	11	11	11	9	6
1978	5	5	5	5	5	3	0
1977	3	6	6	5	6	4	5
1976	1	3	3	3	3	2	1
1975	C	0	0	0	0	0	0

YEAR	AR	TCA	TA	TCL
1982	1C	12	12	11
1981	29	38	38	37
1980	9C	108	109	106
1979	34	40	41	39
1978	33	38	39	36
1977	18	21	22	21
1976	4	4	4	4
1975	3	3	3	3

SERVICES--BUSINESS

YEAR	AR	TCA	TA	TCL	NW	NS	ATP
1982	C	1	1	1	1	1	1
1981	4	8	8	8	8	7	4
1980	22	27	27	27	27	20	14
1979	1	2	2	2	2	1	1
1978	3	5	5	5	5	3	2
1977	4	7	7	7	7	5	1
1976	1	1	1	1	1	0	0
1975	C	0	0	0	0	0	0

YEAR	AR	TCA	TA	TCL
1982	7	11	11	11
1981	38	54	54	53
1980	103	128	128	125
1979	42	61	61	61
1978	34	45	45	43
1977	13	18	18	18
1976	7	12	12	12
1975	2	2	2	2

OTHER

YEAR	AR	TCA	TA	TCL	NW	NS	ATP
1982	1	1	1	1	1	1	0
1981	1	1	1	1	1	1	0
1980	4	5	5	5	5	4	3
1979	C	1	1	1	1	0	0
1978	1	2	2	2	2	0	1
1977	C	1	1	1	1	0	0

YEAR	AR	TCA	TA	TCL
1982	C	0	0	0
1981	12	12	12	12
1980	20	22	22	22
1979	8	8	8	8
1978	6	6	6	6
1977	1	1	1	1

TABLE II.4

MBDA FINANCIAL RESEARCH DATA BASE

FREQUENCY OF SELECTED FINANCIAL DATA OF NON-MINORITY FIRMS WITH COMPARABLE OBSERVATIONS IN 1980 BY LEGAL STATUS

	VARIABLE						
EAR	ACCOUNTS RECEIVABLE (AR)	TOTAL CUR. ASSETS (TCL)	TOTAL ASSETS (TA)	TOTAL CURRENT LIABILITIES (TCL)	NET WORTH (NW)	NET SALES (NS)	AFTER PROFIT
				Non-Corporations			
982	27	30	30	29	30	26	20
981	168	196	196	194	196	190	159
980	331	371	371	366	371	368	353
979	221	265	265	251	265	242	197
978	142	172	173	168	173	144	120
977	42	49	50	47	50	45	34
976	16	19	19	19	19	18	17
975	3	5	5	3	5	5	3
				Corporations			
982	208	220	221	219	221	204	180
981	993	1,093	1,093	1,090	1,092	1,044	957
980	1,455	1,565	1,568	1,559	1,568	1,542	1,501
979	1,040	1,167	1,172	1,161	1,172	1,098	971
978	572	656	663	654	663	690	513
977	144	166	167	164	166	144	124
976	52	62	62	62	62	55	45
975	20	28	28	27	28	25	21

ote: Only values greater than zero are included in the comparison.

TABLE II.5

MBDA FINANCIAL RESEARCH DATA BASE

UENCY OF SELECTED FINANCIAL DATA OF NON-MINORITY FIRMS WITH COMPARABLE OBSERVATIONS IN 1980 BY LEGAL STATUS AND MAJOR INDUSTRY

Non-Corporations

Corporations

CONSTRUCTION

TCA	TA	TCL	NW	NS	ATP
7	7	7	7	6	5
56	56	56	56	54	51
119	119	119	119	117	118
87	87	84	87	76	61
64	65	63	65	56	46
19	20	19	20	17	15
7	7	7	7	7	6
3	3	2	3	3	2

YEAR	AR	TCA	TA	TCL	NW	NS
1982	58	60	60	60	60	58
1981	222	249	249	247	249	238
1980	334	361	363	359	363	359
1979	243	275	277	273	277	261
1978	131	159	163	160	163	142
1977	26	32	33	32	33	31
1976	16	19	19	19	19	17
1975	8	11	11	11	11	9

MANUFACTURING

TCA	TA	TCL	NW	NS	ATP
2	2	2	2	2	2
14	14	13	14	14	10
34	34	33	34	34	31
22	22	20	22	21	19
15	15	15	15	10	9
5	5	5	5	5	5
4	4	4	4	4	4
0	0	0	0	0	0

YEAR	AR	TCA	TA	TCL	NW	NS
1982	53	54	54	53	54	51
1981	221	233	233	233	233	223
1980	340	354	354	353	354	350
1979	256	280	280	279	280	260
1978	135	150	150	149	150	141
1977	33	37	37	37	37	31
1976	14	16	16	16	16	15
1975	3	4	4	4	4	4

TRANSPORTATION/UTILITIES

TCA	TA	TCL	NW	NS	ATP
0	0	0	0	0	0
7	7	7	7	7	6
17	17	17	17	17	17
13	13	12	13	13	12
9	9	9	9	9	8
5	5	5	5	3	2
3	3	3	3	3	3
0	0	0	0	0	0

YEAR	AR	TCA	TA	TCL	NW	NS
1982	6	5	6	6	6	4
1981	48	52	52	52	51	51
1980	81	87	87	86	87	86
1979	52	57	58	56	58	55
1978	36	40	40	38	40	38
1977	11	14	14	14	14	9
1976	3	3	3	3	3	3
1975	1	2	2	1	2	2

TABLE II.5 (continued)

MBDA FINANCIAL RESEARCH DATA BASE

EQUENCY OF SELECTED FINANCIAL DATA OF NON-MINORITY FIRMS WITH COMPARABLE OBSERVATIONS IN 1980 BY LEGAL STATUS AND BY MAJOR INDUSTRY

Non-Corporations

Corporations

WHOLESALE TRADE

TCA	TA	TCL	NW	NS	ATP
6	6	5	6	6	4
26	26	26	26	25	22
39	39	39	39	39	38
29	29	28	29	28	24
18	18	18	18	16	13
4	4	4	4	4	3
0	0	0	0	0	0
0	0	0	0	0	0

YEAR	AR	TCA	TA	TCL	NW	NS
1982	32	33	33	33	33	32
1981	205	217	217	217	217	205
1980	271	282	283	282	283	281
1979	215	232	233	231	233	218
1978	126	133	134	134	134	116
1977	22	23	23	22	23	22
1976	4	4	4	4	4	4
1975	2	3	3	3	3	3

RETAIL TRADE

TLA	TA	TCL	NW	NS	ATP
9	9	9	9	7	5
56	56	55	56	53	43
89	89	86	89	88	83
70	70	65	70	64	51
41	41	39	41	33	27
10	10	8	10	10	6
1	1	1	1	0	1
0	0	0	0	0	0

YEAR	AR	TCA	TA	TCL	NW	NS
1982	25	29	29	29	25	26
1981	134	154	154	153	154	150
1980	183	206	206	205	206	203
1979	126	150	150	149	150	144
1978	58	75	75	75	75	65
1977	16	19	19	18	19	15
1976	6	7	7	7	7	7
1975	4	4	4	4	4	4

FINANCE/INSURANCE/REAL ESTATE

TCA	TA	TCL	NW	NS	ATP
1	1	1	1	1	0
3	3	3	3	3	3
3	3	3	3	3	3
2	2	2	2	2	2

YEAR	AR	TCA	TA	TCL	NW	NS
1982	2	4	4	4	4	4
1981	8	9	9	9	9	8
1980	13	17	17	17	17	16
1979	10	13	13	13	13	13

TABLE II.5 (continued)

MBDA FINANCIAL RESEARCH DATA BASE

FREQUENCY OF SELECTED FINANCIAL DATA OF NON-MINORITY FIRMS WITH COMPARABLE OBSERVATIONS IN 1980 BY LEGAL STATUS AND BY MAJOR

Non-Corporations

Corporations

SERVICES--OTHER

AR	AR	TCA	TA	TCL	NW	NS	ATP
82	2	2	2	2	2	2	2
81	17	19	19	19	19	19	11
80	42	44	46	44	44	44	39
79	22	25	25	25	25	23	16
78	11	11	11	11	11	8	7
77	3	3	3	3	3	3	0
76	3	4	4	4	4	4	3
75	2	2	2	1	2	2	1

YEAR	AR	TCA	TA	TCL	NW
1982	14	15	15	15	15
1981	71	78	78	78	78
1980	112	119	119	119	119
1979	7C	77	77	77	77
1978	37	38	39	38	39
1977	16	18	18	18	18
1976	3	3	3	3	3
1975	0	0	0	0	0

SERVICES--BUSINESS

AR	AR	TCA	TA	TCL	NW	NS	ATP
82	2	3	3	3	3	2	2
81	1C	15	15	15	15	15	13
80	21	26	26	25	26	26	24
79	13	17	17	15	17	15	12
78	8	12	12	11	12	10	8
77	1	3	3	3	3	3	3
76	C	0	0	0	0	0	0
75	C	0	0	0	0	0	0

YEAR	AR	TCA	TA	TCL	NW
1982	18	20	20	19	20
1981	84	101	101	101	101
1980	121	139	139	138	139
1979	68	83	84	83	84
1978	42	53	54	52	54
1977	19	21	21	21	21
1976	7	9	9	9	9
1975	2	3	3	3	3

OTHER

YEAR	AR	TCA	TA	TCL	NW	NS	ATP
1982	C	0	0	0	0	0	0
1981	C	0	0	0	C	0	0
1980	C	0	0	0	0	0	0
1979	C	0	0	0	0	0	0
1978	C	0	0	0	0	0	0
1977	C	0	0	0	0	0	0

YEAR	AR	TCA	TA	TCL	NW
1982	C	0	0	0	0
1981	C	0	0	0	0
1980	C	0	0	0	0
1979	C	0	0	0	0
1978	C	0	0	0	0

APPENDIX III

ESTIMATING SALES AND PROFITS

1. The variables used to estimate sales have all been defined in the previous section (see page 54 and following) of this study where profits were estimated via multiple linear regression models. These variables are:

   a. Net worth
   b. Liquidity
   c. Corporation
   d. Income Change

2. The models used to estimate sales were calculated separately for six ndustry groups:

   a. Construction
   b. Manufacturing
   c. Wholesale
   d. Retail
   e. Services
   f. Other

For each industry group, a multiple linear regression model was estimated in he following form:

(Sales divided by Total Assets) = f(Net Worth, Liquidity,

Income Change	21.647
Liquidity	-.654
Corporation	.516
Net Worth	.739
b. Manufacturing (R^2 = .682)	
Income Change	16.846
Liquidity	-.047
Corporation	.447
Net Worth	.286
c. Wholesale (R^2 = .738)	
Income Change	17.420
Liquidity	.816
Corporation	1.809
Net Worth	-.547
d. Retail (R^2 = .749)	
Income Change	17.124
Liquidity	-.826
Corporation	.684
Net Worth	.279

Net Worth	-.337

B. Estimating Profits - The model used to estimate profits is comple described in an earlier section of this report. (See page 54 and following. A see Table 15, page 56).

APPENDIX IV

REGRESSION AND DISCRIMINANT ANALYSIS MODELS

$$Y^1 = B_1X_1 + B_2X_2 + \dots + B_kX_k$$

where:

Y^1 represents the estimated value of the dependent variable Y,

B_i are the regression coefficients, and

X_i are the explanatory variables.

The B_i are selected such that they minimize the sum of squared residuals $\Sigma(Y - Y^1)^2$. The actual calculation of the B_i, for the case of two explanatory variables, is:

$$B_1 = \frac{SP_{Y_1}(SS_2) - SP_{Y_1}(SP_{12})}{SS_1(SS_2) - SP_{12}^2}$$

$$B_2 = \frac{SP_{Y_2}(SS_1) - SP_{Y_1}(SP_{12})}{SS_1(SS_2) - SP_{12}^2}$$

where SS and SP stand for sum of squares and sum of products, or

D is the score of the discriminant function,

d_i are the variable coefficients, and

Z_i are the explanatory varibles.

The discriminant analysis models sought to distinguish between tw
of observations:

1. First, profitable versus unprofitable firms were examined;

2. Secondly, continuing firms versus firms that have disc
operations were examined.

Discriminant analysis was used to test for differences betwee
means. Mathematically, discriminant analysis weighs and combi
discriminating variables in a fashion that forces the groups to be as sta
distince as possible. One seeks to discriminate between two groups in
of being able to tell them apart. Discriminant analysis cannot be used
groups in a body of data; instead, it starts from the assumption that
groups exist. For elaboration, see page 434 of the SPSS Manual, *S*
Package For The Social Sciences (New York: McGraw-Hill, 1975).